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SHOCK *

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CLEVELAND

The theory of shock so ably advocated by my gifted friend Professor Henderson and my theory may in many important respects be harmonized. It seems best, however, to leave that to the future and to proceed at once to the presentation of the summaries of a long series of experiments and clinical observations in support of the kinetic theory which I have proposed elsewhere. This theory is called the kinetic theory because it is based on the phenomena and the consequences of the transformation of latent energy into kinetic energy as an adaptive response to environmental stimuli.

In this paper, therefore, I shall discuss the pathology of traumatic shock; of emotional shock; of toxic and foreign proteid shock; and of drug shock. These several forms of shock will be considered in their acute and in their chronic stages and certain probable relations will be indicated between the several forms of shock and certain diseases, such as indigestion, neurasthenia, glycosuria, Graves' disease, cardiovascular disease and nephritis.

Let me at once state my principal conclusion—that all forms of shock are caused by overstimulation and consequent exhaustion; that the brain-cells show physical changes corresponding to each stage of the cycle of shock, and that with each shock-producing agency which I have studied there is shown in the brain-cells a hyperchromatic stage followed by a hypochromatic stage.

The organs of the body especially involved in shock are certain organs whose function is that of converting latent energy into kinetic energy in response to adaptive stimulation. These organs—among which are the brain, the thyroid, the adrenals, and the muscles—I have called the kinetic system because of this peculiarly kinetic function. In response to environmental stimuli of any sort these organs convert latent energy into motion or into heat. In this thesis, however, I shall consider only the conversion of latent energy into motion as a response to the need of self-preservation against physical injury or infection.

As evidence, will be presented clinical and experimental observations of the energy-producing results of physical injury alone; of physical injury under inhalation anesthesia; of the emotional stimulation of fear alone; and of foreign proteid and toxic stimulation alone; and their results will be considered in their relation to the brain, the adrenals and the thyroid.

TRAUMATIC SHOCK

A working histologic standard for the brain was established and compared in a large number of brains with the immediate and later effects of physical injury under inhalation anesthesia in an intact animal and in a spinal dog; of physical injury in dogs with crossed circulation; and of physical injury, within the territory of anesthesia, in dogs under local anesthesia; of injections of toxins; of injections of strychnin and morphin; of various inhalation anesthetics; of severe hemorrhage and of fatigue from both physical exertion and prolonged wakefulness.

In case of physical injury alone inflicted on normal dogs under anesthesia, in the brain-cells was found first a stage of hyperactivity characterized by hyperchromatism; and later a stage of exhaustion characterized by chromatolysis, by alteration of nucleocytoplasmic relation, by rupture of the nuclear and the cell membrane and, finally, by disintegration. These changes were most marked in the cortex and the cerebellum, less marked in the medulla and in the cord.

The brain-cells showed no change when the trauma was limited to territories disconnected from the brain by severing the spinal cord, or by local anesthetization. When the circulations of two dogs were crossed and but one dog was traumatized, brain-cell changes were found only in the dog traumatized. Dogs overtransfused and traumatized showed brain-cell changes. Under nitrous oxid the brain-cell changes after equal trauma caused about one-third as much change as under ether. When the vitality was previously reduced by emotion, by physical exertion, by toxins, by infection, by hemorrhage, by excessive thyroid feeding, by adrenalectomy—or by any cause that reduces the vital power—greater changes were found after equal trauma, the endurance of the animal being in proportion to its vitality at the beginning of the experiment.

Testing the effects of shock-producing traumatism on the output of epinephrin by Cannon's method I found no increased epinephrin output resulting from trauma under anesthesia. In addition there were no gross changes observed in the thyroid in either the laboratory or the clinic as a result of shock-producing trauma.

From these observations I conclude that ether anesthesia offers no protection to the brain-cells from the effect of trauma; and that the lipoid-solvent anesthetics break the arc causing consciousness beyond the brain-cells somewhere in the efferent path; hence the afferent stimuli reach and modify the brain-cells as readily as if no anesthetic had been given. I conclude therefore that the brain-cell changes are due to the discharge of energy in a futile effort to escape from the injury.

* Paper read before the Seventeenth International Congress of Medicine, London, England, August 6-12, 1913.

EMOTIONAL SHOCK

In rabbits subjected to the emotional stimulus of fear alone the brain-cells showed precisely the same changes as those which resulted from physical injury, namely, an immediate stage of hyperchromatism and a later stage of chromatolysis: a disturbance of the nucleoplasmic relation and the final disintegration of many cells.

As a result of strong fear repeated daily for two weeks as many as 18 per cent. of the Purkinje cells were actually destroyed, and many animals died. In cats the emotion of rage caused a striking increase in the output of epinephrin, but in cats subjected to fear and rage a month after division of the major and the minor splanchnic nerves, there was no increase in the output of epinephrin. In rabbits acute fear caused a rise in temperature of from 1 to 3 degrees, excepting in thyroidectomized animals whose temperature remained subnormal. In rabbits nephritis often resulted from repeated fright.

TOXIC AND FOREIGN PROTEID SHOCK, ANAPHYLACTIC SHOCK

To determine the histologic changes produced by toxic and foreign proteid shock, and by anaphylactic shock, the brains of many human beings who had died of infections and of eclampsia were examined, and in the laboratory were studied the brains of many animals in which there had been injected toxins of streptococci, staphylococci, colon bacilli, gonococci and tetanus bacilli; the brains of animals to which there had been given intravenously peptones, leucin, skatol, extract of feces, alien blood-serum; of animals in anaphylactic shock; of animals in which placental extract had been injected. In all instances observations were made as to the effect of the injections on the epinephrin output, and the brain-cell changes. In every instance the brain-cells showed precisely the same changes as were seen under traumatic injury, and emotional injury—first a stage of hyperchromatism, followed by a stage of chromatolysis and cell disintegration. Of special interest was the fact that these various toxins and foreign proteids, as well as anaphylaxis and placental extract, produced a large increase in epinephrin output. But if the nerve-supply of the adrenals had been first divided, then these agents caused no increased output of epinephrin; or if deep morphin narcotization had been first induced there was no increased epinephrin output in toxic and anaphylactic shock.

DRUGS—ANESTHETIC, NARCOTIC AND STIMULANT

Many observations of the brain-cells and the epinephrin output were made after the administration of ether, urethane, nitrous oxid and morphin. None of these caused either brain-cell changes or increased epinephrin output.

Here again it was of special significance to note that, under heavy morphin dosage, there was no increased output of epinephrin as a result of anaphylactic shock. It was found also that the normal output of epinephrin was diminished by morphin. Strychnin, on the other hand, caused brain-cell changes of precisely the same type as did the emotions, toxins, and foreign proteins, that is, at first hyperchromatism and later chromatolysis; and there was also increased epinephrin output. Previous division of the adrenal nerve-supply prevented the increased output of epinephrin.

These experimental results may be summarized as follows: All the factors that cause the activation of the kinetic system, whether emotional, toxic, foreign protein, or drug, produce identical brain-cell changes and increased epinephrin output. On the other hand, the anesthetics and the narcotics cause neither brain-cell changes nor increased epinephrin output, while strychnin causes both. Clinically, it is known that those agencies that in my experiments were proved to cause an increased activity of the brain and the adrenals, also aggravate cases of Graves' disease. It is known also that in those cases of Graves' disease in which changes in the size of the thyroid may be noted, increase in its size is seen as a result of emotional excitation; of infections; of toxemia, and of intense physical and mental work. There is strong clinical evidence, therefore, of the activation of the thyroid by the same influences that activate the brain and the adrenals.

I have shown that in traumatic shock, emotional shock, foreign protein shock, and strychnin shock, identical physical changes in the brain-cells are found. Excepting in traumatic shock under inhalation anesthesia the adrenal glands are activated by the same agencies that cause work changes in the brain. Clinically it is known that the same influences cause thyroid activation.

I conclude, therefore, that shock is a work-exhaustion phenomenon; that the brain, the adrenals, the thyroid and the muscles have but one way of responding to stimuli; and that the conversion of energy is through the activity of these kinetic organs. What work is done in response to foreign protein stimulation? Through the heat-producing activity of the kinetic system foreign proteins such as bacteria are destroyed. Since heat interferes with the growth of bacteria, I must believe that fever is an adaptive reaction to the presence of bacteria in the body and that it is produced by the conversion of latent energy into heat through the same mechanism that converts latent energy into motion. Hence after stimulation by foreign proteins with resultant fever the work changes seen in the brain, the thyroid, the adrenals, and in all parts of the kinetic system are the same as the work changes seen after the conversion of energy into motion.

Shock, then, is the result of an intense stimulation of the kinetic system which leads to physical changes in the kinetic system and which if carried far enough exhausts the system and even destroys some brain-cells. The kinetic system is constantly activated so long as there is life, but normal activation does not produce exhaustion. If normal activity of the kinetic system be exemplified by walking, shock might be exemplified by the exhaustion caused by a Marathon race. The differences between normal processes and shock is that of intensity, not of kind. From these premises it becomes obvious that the exclusion of both traumatic and emotional stimuli will wholly prevent the shock of surgical operations.

When the kinetic system is continuously or intermittently overstimulated through a considerable period of time, so long as all the links in the kinetic chain take the strain equally, the result will be excessive energy conversion, excessive work done. Usually under stress, however, some one link in the chain will be unable to take the strain and then the evenly balanced work of the several organs of the kinetic system is disturbed. If the brain does not take the strain, then neurasthenia, nerve exhaustion, or even insanity, will follow. If the thyroid is not able fully to take the strain, it undergoes hyperplasia, which in turn may result in a colloid goiter or in exophthalmic goiter. If the adrenal does not take the strain, there may be developed cardiovascular disease or glycosuria.

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From the foregoing one is able to understand the muscular weakness following fever; one can understand why the senile have neither muscular power nor strong febrile reaction; why long-continued infections produce pathologic changes in the organs constituting the kinetic chain; why the same pathologic changes result from various forms of activations of the kinetic system. In this hypothesis we find a reason why cardiovascular disease may be caused by chronic infection, by autointoxication, by overwork, or by emotional excitation. We see now that the reason why we find so much difficulty in differentiating the numerous acute infections from each other is that they play on the same kinetic chain. Our postulate harmonizes the pathologic democracy of the kinetic organs, for it explains not only why in many diseases the pathologic changes in these organs are identical, but why the same changes are seen as the result of emotional strain and overwork. It can thus be understood how either emotional strain or acute or chronic infections may cause either exoptthalmic goiter or cardiovascular disease; how chronic intestinal stasis with the resultant absorption of toxins may cause cardiovascular disease, neurasthenia, or goiter. Here is found an explanation of the phenomena of shock, whether the shock be the result of traumatic or psychic stimuli, or of a surgical operation with its combination of both psychic and traumatic elements.

This conception of the kinetic system has stood a crucial clinical test by making possible the shockless surgical operation. It has offered a plausible explanation of the cause and the treatment of Graves' disease. Will this kinetic theory stand also the clinical test of controlling that protean disease bred in the midst of the stress of our present-day life? Present-day life in which one must ever have one hand on the sword and the other on the throttle, is a constant stimulus of the kinetic system. The force of these kinetic stimuli may be lessened at the cerebral link by intelligent control; a protective control is empirically attained by many of the most successful men. It may be broken at the thyroid link by dividing the nerve-supply, reducing the blood-supply, or by partial excision; or if the adrenals feel the strain, the stimulating force may be broken by dividing their nerve-supply. No theory is worth more than its yield in practice, but the straw of clinical evidence from a single case points toward a new method of control of cardiovascular disease. I have proved that animals remain in apparently good health after the division of their adrenal nerve-supply, and in one human patient with cardiovascular disease in whom the adrenal nerve-supply was divided the blood-pressure gradually fell and remained at a lower level than prior to the operation. The patient is in good condition. As it stands alone, however, this case proves nothing.

SUMMARY

There is a group of organs whose function is the conversion of potential into kinetic energy. These organs form a kinetic system. Among the organs forming this system are the brain, the thyroid, the adrenals, and the muscles. The kinetic system converts latent energy into motion or heat in response to adequate stimuli. If the stimuli are overwhelmingly intense, then the kinetic system—especially the brain—is exhausted, even permanently injured. This condition is acute shock. If the stimuli extend over a period of time and are not so intense as to cause an immediate breakdown or acute shock, their repetition may cause the gradual exhaustion of the kinetic system—this condition may be called chronic shock. Either acute or chronic shock may be measurably controlled by weakening or breaking the kinetic chain at any point. This has already given us the shockless operation and it opens a possibility of controlling certain chronic diseases of that intensely kinetic organism, civilized man.

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THE RÔLE OF THE TENDO ACHILLIS IN THE ETIOLOGY OF WEAK-FOOT*

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It is a modern conception that weak-foot, or flat-foot, (insufficientia pedis—Schanz) is primarily caused by a loss of balance of the muscles of the leg and foot; that the interference with the proper function of these various groups of muscles which is caused by abuse, disuse, injury or disease, will be followed by weakness of one or more of these muscular groups; that from this there results a disturbed relationship of function between the various individual muscles of the leg, and finally impairment of the carrying power of the foot.

Huebscher[1] has shown that the group of muscles forming the Achilles tendon (gastrocnemius, soleus and plantaris), has the same volume as all the remaining muscles of the leg combined and probably for that reason has approximately the same relative strength. It is not to be wondered at that interference with the proper function of this powerful group of muscles, caused by shortening, would interfere materially with the proper use of the foot.

While the relationship of the short Achilles tendon to weak-foot has been written of from time to time, sometimes very fully, sometimes in cursory fashion, there are still a great many able articles which treat of the subject of weak-foot, yet which devote no time to this etiologic factor.[2] That a short Achilles tendon often accompanies a rigid weak-foot is well known.[3] In fact, a part of the proper treatment of such a rigid weak-foot consists either in division or in the lengthening of this large tendon.

The fact that a shortened Achilles tendon is a causative factor in many cases of beginning weak-foot is not of new observation. Schaffer[4] of New York was the first in this country to call attention to this. His article on the subject is worth reading in full. Shortly before publishing this paper, Schaffer made the statement, perhaps a little too comprehensive, that nearly every case of flat-foot which he sees presents a shortened tendo Achillis.

* Read in the Section on Orthopedic Surgery of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

1. Huebscher: Ueber den Pes Valgus, Ztschr. f. Orthop. Chir., 1904, xiii, 73.

2. Osgood, R. B.: The Comparative Strength of the Abductor and Adductor Groups in the Foot, Am. Jour. Orthop. Surg., 1909, v, 298. Blodgett, W. E.: Analysis of One Thousand Cases of Static Foot Trouble, Am. Jour. Orthop. Surg., 1904, ii, 146. Ochsner, E. H.: Potential and Acquired Static Flat-Foot, THE JOURNAL A. M. A., Nov. 23, 1907, p. 1742. Hovorka, Otto: Die Bisherige Erfolge der Plattfuss-Chirurgie, Ztschr. f. Orthop. Chir., 1906, xvi 328. Gocht: Sehnenoperation bei Pes plano-valgus, Ztschr. f. Orthop. Chir., 1905, xiv, 295.

3. Schultze, F.: Die Behandlung des statischen Plattfusses mittelst des Redressement forcé und der Sehnenplastik, Ztschr. f. Orthop. Chir., 1904, xiii, 270. Antonelli, I.: Zur Therapie des Plattfusses, Ztschr. f. Orthop. Chir., 1904, xiii, 666. Osgood, R. B., The Treatment of Faulty Weight-Bearing in "Weak" and "Flat" Feet, Am. Jour. Orthop. Surgery, 1906, iv, 137. Hoffa, A.: Lehrbuch der Orthopädischen Chirurgie, p. 889. Whitman, R.: Orthopedic Surgery, p. 691.

4. Schaffer, Newton M.: Flat Foot, Its Causes and Treatment, New York Med. Jour., 1897, lxv, 717.

Soon after the publication of Schaffer's paper, there appeared, in the literature, sporadic references to this subject; some authors laying stress on the relationship that exists between the two conditions. Bradford and Lovett[5] distinctively mention this in their text-book as a cause for weak-foot.

The cause of the shortening of the heel cord is often not far to seek when we remember the high-heeled shoes that women wear. Hoffman[6] says: "The high heel, especially the one placed well forward, compels the wearer to stand largely on the front of the foot, which must bear more than its proportionate share of the body weight. The habitual wearing of the high-heeled shoes leads to shortening of the calf muscles through accommodation to the continually assumed attitude. This is probably the reason that a large percentage of middle-aged women cannot dorsiflex the foot to quite a right angle without relaxing the calf muscles by bending the knee."

In my own experience I have seen many cases of beginning weak-foot in adolescents who have never worn a high-heeled shoe. For the cause of the shortened heel cord in these cases, I have no explanation. Blodgett[7] and Williams[7] came to almost identical conclusions in two interesting statistical studies regarding the relative frequency with which a shortened tendo Achillis occurs in patients complaining of weak-foot. Neither, however, seems to have considered the possible etiologic relationship of the shortened heel cord to the symptoms. Blodgett, in an examination of 1,000 patients, finds evidence of shortened heel cord in 175 cases, or 17.5 per cent. Williams finds a shortened Achilles tendon in 65 out of 300 cases, or 18.3 per cent. The great majority of Williams' patients with shortened Achilles tendon were women and Williams blames high heels for this condition.

Abbott and Pingree[8] have done some interesting experimental work on the normal balance of the foot. Among other things, they have shown (Experiment 1), that when the heel cord is shortened artificially in a dissected weak-foot, it is impossible to raise the arch to the normal position by traction on the anterior and posterior muscles; but, if the tendo Achillis is divided, that the inner border of the foot can then be easily raised to the desired height. In other words, the tibialis anticus and posticus are working under disadvantageous conditions when the heel cord is short.

Before I knew of the existence of Schaffer's classic work, I was able to demonstrate to myself in a few dissections of the foot that when the heel cord was shortened artificially so that dorsiflexion was impeded, a little more movement of the anterior portion of the foot was made possible by vicarious movement in the mediotarsal joint; this movement being in the sense, not only of dorsiflexion, but also of pronation.

Then I understood why it was that a patient with a shortened heel cord was able to bring the foot a little more toward a right angle when the foot was slightly abducted. In practice, I have found that some of my most obstinate cases of weak-foot present the condition of a shortened heel cord. For the last two years, I have not hesitated to advise section of the tendo Achillis in these cases preparatory to the usual well-accepted forms of treatment of weak-foot, believing that, when present, the shortened heel cord stood in etiologic relationship to the symptoms.

I now have fifteen cases in which the time since operation exceeds one year. All of these patients are walking much better than they did before the operation. From what I can learn, every one is satisfied and pleased with the results of the operation. I have always divided the tendo Achillis subcutaneously, usually cutting it obliquely; occasionally dividing it according to the method of Bayer. One case-report may serve as an example of all of them:

CASE 1.—Miss R., aged 38, a housekeeper, stands much of the time, wore high-heeled shoes years ago and comes with typical symptoms of weak-foot. There is pain on arising from bed, also aching feet and inability to walk any distance without discomfort. She has tried all kinds of braces and shoes. Braces and shoes applied by myself gave only moderate relief. Achillotomy advised and done January, 1911. A plaster cast was used for six weeks. Following the removal of the cast there was considerable swelling of the feet for some time, so that the patient became very much worried about it. Properly graded exercises were begun and proper shoes and mechanical supports were adjusted. Two years later, the patient can walk as far as she wants to and has no soreness excepting a little after a hard day's work. The patient is much pleased with the result.

During the last six months I have been operating on these patients under gas anesthesia, thereby eliminating the only possible danger which attended this operation before, namely, that of complications due to ether.

Dr. Schaffer describes in his article an apparatus for slowly stretching the tendo Achillis. Perhaps I should have tried this method before resorting to operative procedures. As the element of time, however, is important to most of these patients, it is my opinion that section of the tendo Achillis probably will always be the quicker method of achieving the desired result, namely, that of lengthening this tendon.

One word further as to the examination of patients: In testing for a shortened heel cord, we must be sure to have the patient's knee straight, for the obvious reason that the insertion of the gastrocnemius is above the knee-joint. With the knee bent, there is a great deal of slack, which is taken up when the knee is extended as in standing.

CONCLUSIONS

1. Shortened tendo Achillis accompanies at least 16 to 18 per cent. of all cases of beginning weak-foot.

2. There is experimental evidence at hand, easily to be reproduced, that a shortened heel cord can alter the range of motion of the foot and cause eversion to accompany continued dorsiflexion.

3. By simple division of the heel cord, we restore to the foot a certain range of normal motion, which has become lost to it, and without which normal range of motion the foot cannot properly perform its varied functions.

ABSTRACT OF DISCUSSION

DR. CHARLES A. PARKER, Chicago: I have not had any experience with the method of treatment mentioned by Dr. Geist, but I wish to speak with regard to the possible action and reaction after the tendo Achillis is cut. It is the only extensor of the arch of the foot behind the ankle. All the structures in the sole are flexors of the arch; and when it is cut, they have a tendency, I suppose, to produce a type of calcaneum that, of course, does not go on to complete development; but it allows the structures in the sole of the foot to develop an arch.

5. Bradford and Lovett: Orthopedic Surgery, p. 570.
6. Hoffman: Conclusions Drawn from a Comparative Study of the Feet of Barefooted and Shoe-Wearing Peoples, Am. Jour. Orthop. Surg., 1905, iii, 105.
7. Williams, A. H.: Static Foot Error in Private Practice, Am. Jour. Orthop. Surg., 1910, vii, 481.
8. Abbott and Pingree: Restoration of Normal Balance of Foot, New York Med. Jour., 1908, lxxxvii, 875.

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DR. ROLAND MEISENBACH, Buffalo, N. Y.: Dr. Geist's paper is very important, from the fact that many cases of weak feet due to the tense calf muscle are overlooked. The paper recalls to my mind two cases which yielded stubbornly, one in a strong, healthy woman who had weak feet and beginning flatfoot, in which I am sure that the prime factor of discomfort was the shortening of the tendo Achillis. Temporary relief was given by stretching the calf muscles. In the other case I tried every means to relieve the condition except section of the tendo Achillis, which was refused by the patient. I think that it is much better to do the open operation in lengthening the tendon rather than to section subcutaneously, especially in adult patients with large tendons, as thereby one is less liable to produce a large callus which may delay convalescence.

DR. FREDERICK C. TEST, Chicago: I cannot quite agree with Dr. Geist in calling this condition a true case of weak-foot. It seems to me that weak-foot is due to relaxation of the muscles and ligaments; and that in this condition it is rigidity and shortening of the tendo Achillis, and often of the peronei tendons as well, that is the cause of the trouble. It is more a contraction than a relaxation. I have seen many patients who objected to section of the tendo Achillis, and in these cases I have obtained good results by removing the heel and thickening the sole, so as to lift the front of the foot, and then after a few weeks stretch the shortened heel tendon, thus solving the same mechanical problem along bloodless lines.

Instead of calling such a deformity "weak-foot," I call it the "high-heel hobble."

DR. NEWTON M. SHAFFER, New York: This question of the effect of a shortened tendo Achillis on flatfoot is, I think, one that I was the first to bring before the profession. I stated at one time that every case of flatfoot had a shortened heel-cord. I wish to reiterate that statement to-day with a slight modification. It all depends on the way the foot is examined, whether it can be demonstrated or not. The foot, as you know, is abducted in simple flatfoot—not the inflammatory kind—which is the last stage of the condition. If you take the patella as your guide and bring the tarsus immediately under the patellar line and then attempt to get flexion of the ankle-joint, dorsal flexion will stop inside a right angle. Underlying all these conditions may be lack of nutrition.

With a long tendo Achillis and tight plantars, you have a hollow foot, while with a short tendo Achillis and flabby plantars, you have a flatfoot. I have seen the conditions pass from one type to the other. A girl with a hollow foot weakened with ordinary illness will have so much strain thrown on it that the plantar fascia gradually yields and produces flatfoot. I wish therefore to reiterate what I have said before, and still believe to be the truth, that in 90 per cent. of the cases of flatfoot I can demonstrate a short tendo Achillis.

I have come to believe that division of the tendo Achillis is the best method of treating the more advanced and resistant cases.

DR. EMIL S. GEIST, Minneapolis: I have not yet encountered a case of excessive callus that gave trouble; hence, since subcutaneous division has been so satisfactory up to date I shall continue with it. We are all, no doubt, familiar with the small epidemics that we see every summer, when the young ladies discard high-heeled shoes and play tennis and other athletic games that bring them down on their heels and require them to put a pull on the tendo Achillis with bad results at times.

I wish to reiterate the statement that this is only one stage. It is necessary to follow up the operation of achilloteneotomy with the measures that, in the years gone by, we have already learned to appreciate, namely, proper shoes, braces and exercises.

Regarding the priority of Dr. Schaffer, I would say that the only authority that I have for not mentioning the doctor as being the first to point out the relationship of short heel-cord to weak foot, is Hoffa, who mentions in this connection the name of Krauss. I have been unable to locate the work of Krauss on this subject.

CERTIFIED MILK *

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The propaganda for clean milk has been one of the chief factors in the development of the "Social Welfare" movement during late years. In all our centers of population certified milk is an important item in the food supply of the baby and its production engages the attention of many of our best sanitarians and pediatrists.

We find that there is still prevalent in the profession, even where we would least expect it, much misconception as to what certified milk is and what benefit is to be expected from its use. Thus we often hear certified milk spoken of as if it were identical with pasteurized milk, and I have known physicians to advise against the former on the ground that to heat milk made it unfit for infant-feeding, although certified milk is, of course, not heated at all. In THE JOURNAL of the American Medical Association we find the question asked, "Is Certified Milk Safe?"[1] and the emphasis is there laid on the dangers which are inherent in all milks and against which even certified milk cannot absolutely guard. In the *American Journal of Diseases of Children* we find quoted[2] without unfavorable criticism a standard of 30,000 bacteria per cubic centimeter; while in a paper[3] read before this Section last year it is asserted that a "waste of money and effort accompanied the work of many of the charities which confined their efforts to the distribution of clean milk, of which so much was once expected, but which accomplished little more than to help to prove that impure milk plays by no means the most important part in the causation of infant mortality." What the writer of the article doubtless had in mind was the now generally recognized truth that impure milk is but one of the many factors in our tremendous infant morbidity and mortality, and that measures for the prevention of summer diarrhea and similar diseases, which are predicated only on the furnishing of clean milk for children's use, have not been so successful as at first was anticipated; but that these efforts were barren of results as affirmed by the writer of the criticism, is absurd. All agencies intended to improve the living conditions of the children of our poor take their origin from the pure milk movement, and have, as one of their most important functions, the proper feeding of the babies under their control. This means, as a primal necessity, that the milk furnished them shall be clean.

Because of lack of information on this subject among the profession at large, and because of the recent adoption by the American Association of Milk Commissions of a code of requirements which it is hoped will eliminate discrepancies in the requirements of different commissions and which will make the production of certified milk uniform throughout the country, it has seemed to the officers of the association that this was an opportune time to bring to notice the provisions of this code and to make more accurate the general conception as to what certified milk is.

The certified milk movement originated with Dr. Henry L. Coit,[4] who, after several years' ineffectual effort

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

1. Is Certified Milk Safe? Editorial, THE JOURNAL, A. M. A., April 26, 1912, p. 1209.

2. Mosher, C. G.: Metabolism and Nutrition, Diet. and Hyg. Gaz., March, 1912; abstr., Am. Jour. Dis. Child., October, 1912, p. 256.

3. Cooley, Thomas B.: Relation of the Infant-Welfare Movement to Pediatrics, THE JOURNAL A. M. A., Dec. 2, 1912.

4. Dr. Coit's writings are freely quoted without definite reference.

to improve the milk supply of his community through legislation and other ordinary means, devised the plan for a commission consisting of medical men, which, by voluntary supervision and control of methods, by paid expert inspection of dairy work, and by their certification of the product, should undertake, in cooperation with dairymen possessing the requisite intelligence and capital, to make available a supply of milk produced under regulations imposed by themselves, which should fulfil the most exacting requirements of the physician.

Under the leadership of Dr. Coit, the first medical milk commission was organized in 1893, in Essex County, New Jersey. The term "certified milk" was coined to designate the milk produced under the control of this commission, and was protected by United States copyright. In addition to this, many states have since passed statutes prohibiting the use of the term except on the authority of a properly constituted commission. The movement, originally designed by its author to meet the dire necessities of his own neighborhood, was so successful that similar commissions were organized elsewhere—in New York in 1896, in Philadelphia in 1897, and since then throughout the country—until there is now a total of not less than sixty commissions in twenty-three states, and two in Canada. New York leads with ten, Ohio has six, while California in the extreme West and Massachusetts in the East each have five. The American Association of Milk Commissions was organized in 1906, to institute better methods of propaganda and to unify the work of its component commissions. In California there is also a state association which aims to keep the work within its jurisdiction on the same high plane.

The influence of these commissions has been so profound, not only within the limits of their own immediate activities, but in relation to the improvement of the general milk-supply and all other food products, that they may be classed as one of our most important agencies in public health work; and Dr. Coit, through whose continued ardent advocacy of the cause of pure milk thousands of babies have been saved from needless sickness and death, may properly be named among our great medical philanthropists.

The first step in the acquisition of a supply of certified milk in any community is the organization of a milk commission. This should consist of about five physicians, selected by the county medical society solely because of their known interest in all that the pure milk movement stands for, and perhaps a public-spirited attorney or one or two other lay members should be added to it. Their term of office should be five years, for experience in the work is essential for useful service on a commission, and the personnel should be changed as little as possible. The members receive no pay, and the expense of the work, the fees of the experts, printing, etc., are provided for by a system of assessments on the dairies certified.

An approved and trustworthy dairyman, with financial ability and adequate dairy facilities must then be found, who will agree, in consideration of medical support and an increased recompense in the price of his product, to conduct his dairy, collect and handle the milk in conformity with the requirements of the commission.

Formerly, each commission fixed its own requirements and naturally there resulted a great variety of standards. The code of the American Association was adopted last year only after the most painstaking consideration of its provisions by a committee of able and experienced members, and it may be held to represent the most authoritative conception of the conditions under which milk should be produced for certification. Membership in the association will hereafter depend on acceptance of and compliance with this code, and it is hoped that the heretofore heterogeneous standards of the various commissions will soon be obsolete.

The duties of the members of the commission shall be to enforce the regulations, which, in the code referred to, cover in minute detail every phase in the production of certified milk; to be responsible for personal inspection of the dairy and distributing stations at such intervals as will serve to keep them thoroughly in touch with the management; to provide for competent expert examination of the herd by approved veterinarians, and bacteriologic and chemical analyses of the milk at proper intervals; to maintain such supervision over all matters pertaining to the health of employees as will protect the milk against contamination by pathogenic organisms from those engaged in handling it; and to advance the doctrine of pure milk by private precept, by public lectures, exhibits, literature and all other available means.

The control of the commission over the dairy and the entire process of production and distribution of the milk must be absolute. The hygiene of the dairy is the first consideration. The terrain of the farm must be such that it is well drained and the paddocks and yards shall be kept clean and dry. Rubbish and stable dirt shall not be allowed to accumulate nor shall any insanitary condition be permitted. The water-supply must be pure and ample.

The dairy buildings must be located at a sufficient distance from other buildings, toilets or latrines, dusty roads, cultivated and dusty fields, or other possible sources of contamination. If unavoidably exposed to dust the buildings must be screened with cheese cloth.

The stables must be so constructed as to facilitate the prompt and easy removal of waste products. The floors must be made of non-absorbent material, must be properly graded and drained and have cement gutters at least six inches deep to catch and carry off all manure and drainage. The walls and ceilings should be planned to avoid lodgment of dust and dirt. At least six hundred cubic feet of airspace should be allowed for each cow, with not less than four square feet of window area. The buildings must be screened to prevent the entrance of flies, rats, and other vermin. The greatest cleanliness must be maintained about the premises at all times, the stables are to be washed out twice daily, and all feed and water-troughs kept clean and sanitary.

The proper selection of cows for a certified herd is a matter of importance, a proper admixture of animals of different breeds being frequently necessary to maintain the requisite fat standard. The productivity of each cow in a herd should be recorded and the unprofitable ones weeded out, as a few such in a herd lower its average output very appreciably and entail financial loss to the owner. No cow should be admitted to a certified herd until its freedom from tuberculosis or other disease has been determined by the veterinary expert of the commission, and the entire herd must be subjected semi-annually to a rigid tuberculin test, which shall conform to the rules and regulations of the United States government with respect to tuberculin testing.[5] Veterinary supervision must be maintained at all times and sick cows at once removed from the herd and quarantined or destroyed as the nature of the illness may require. In California there is what should be regarded as a valuable rule in relation to the exclusion of tuberculosis from the herds, namely, when a group of animals from one source

5. Circular of instructions for making tuberculin tests, U. S. Bureau of Animal Industry.

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is examined for admission to the herd, if more than 10 per cent. react to tuberculin, the entire group is rejected. We do not believe it safe to admit to a certified dairy even non-reactors from herds known to be extensively infected, as this will almost surely permit animals in the incipient stage of the disease to gain entrance. Each animal is identified by a numbered ear-tag or other mark, and a descriptive record is kept of distinctive markings, dates, results of tuberculin tests, etc.

Cows should be kept clipped and before each milking must be thoroughly cleansed by brushing and washing, the udders especially being washed clean and dried. All utensils used in handling the milk must be sterilized, and the milkers must wear clean washable suits and carefully cleanse their hands before milking. One of our Western dairies under probationary certification during the past year, has been using milking-machines with which great difficulty was at first encountered in keeping down the bacterial counts, but this is apparently being obviated by experience and minute attention to detail.[6]

The milk must be strained, cooled and bottled immediately after being drawn and the bottles sealed with a cap bearing the name of the dairy and of the certifying commission, together with the date of production or of permissible delivery. The bottles must then be packed in ice in suitable containers for shipment and must reach the consumer within thirty hours, the temperature at the time of delivery not to exceed 50 F.

Chemical and bacteriologic examinations of the milk are to be made at least weekly, and in the event of any deviation from normal standards, tests shall be made daily until the discrepancy has been corrected. If this cannot be accomplished within ten days, certification shall be withdrawn. So delicately balanced may be the organization of a certified dairy and its success so dependent on perfection of technic, that I have known the sudden loss of a cleaner to be at once discovered by the bacteriologist, the added work thrown on the remaining hands and the slight relaxation in methods having resulted in an immediate rise in bacterial content.

The methods that must be followed in carrying out the chemical investigations essential to the protection of certified milk are so complicated that, in order to keep the fees of the chemist within moderate limits, those procedures must be eliminated which are not strictly necessary to demonstrate the quality of the milk. For this reason the determination of the water, the total solids and the milk-sugar is not required as a part of the routine examination by the code of the American Association.

The fat standard is fixed at 4 per cent., with a permissible range of variation of from 3.5 to 4.5 per cent., while the standard for certified cream is 18 per cent., with an allowed variation of 2 per cent. in either direction. The tests recommended are the Babcock, the Leffmann-Beam, and the Gerber.

The protein standard is fixed at 3.5 per cent., with a permissible range of from 3 to 4 per cent., to be determined by the Kjeldahl method, the Gunning or other reliable modification being used, and the factor 6.25 being employed in reckoning the protein from the nitrogen. The protein determination may be omitted except when some special condition renders it desirable.

The chemical examination also includes tests for adding coloring matter and preservatives, among the latter being formaldehyd, borax, boric, salicylic and benzoic acids, and salts of the latter; and tests to determine if the milk has been heated. The specific gravity should be between 1.029 and 1.034.

The bacteriologic standard of the American Association is not to exceed 10,000 bacteria per cubic centimeter of milk, and the presence of pathogenic bacteria excludes the milk from certification. The samples to be examined must be collected by a representative of the commission, in original packages as offered for sale and they must be kept iced until plated, which shall be not later than forty hours from time of milking. Because of the great variation in methods for the bacteriologic examination of milk and the divergent results thereof, the methods to be followed in the examination of certified milk, the composition of the culture mediums, the technic of plating and the period of incubation are all carefully specified, thus affording a proper basis of comparison between milks from different sources. The experts of the commission are required to render written reports of each examination made by them, these to be kept on file in the office of the secretary.

The milk laboratory is a development of the pure milk industry which now, in a number of our cities and in connection with certified dairies, affords the physician an opportunity to order for his little patients milk formulas much more accurately compounded than is possible by home modification, which is a very great advantage in infant-feeding.

The conditions under which certified milk is produced make it impossible that it shall ever constitute a large part of the total milk-supply. As long as we continue to use milk in its natural state, however, we may feel sure that no higher grade of milk can be obtained and that certification will continue to exert an ever-increasing good influence. The one disadvantage urged against it is that of its higher cost in comparison with ordinary milk. This is apparently a valid objection, but it may be stated that in no other combination of foods obtainable in the markets can the same food value be obtained for the price which certified milk commands. The objection, therefore, is more apparent than real.

Chief among its advantages are its known and constant chemical composition and nutritive value; its relative freedom from bacteria of any sort and its practically absolute freedom from pathogenic organisms; its early delivery to the consumer in sealed and iced containers; its purity and freedom from adulteration; and its consequent adaptability to the dietetic requirements of children and invalids.

That these qualities are assured by the guarantee of physicians actuated solely by philanthropic motives in their milk commission activities, merits for certified milk the confidence of the profession and the public. We feel, therefore, that we may expect the unqualified support, especially of pediatrists, and of all those who are interested in the public health.

6. Since writing this paper, certification of this dairy has been canceled.

ABSTRACT OF DISCUSSION

DR. J. W. VAN DERSLICE, Chicago: I am not a Holstein man, I am a Brown-Swiss man. In the pure-bred Holstein it is practically impossible to run a uniform fat percentage. There is no animal in which atmospheric changes, fright, etc., affect the contents of the milk so much as in the Holstein. Last fall we had a severe thunder-storm; the following day the fat of the Holstein farms dropped to 2.6 per cent. The thunder-storm did not last over fifteen minutes.

Another thing to be considered is the milk-machines. We had one farm with milk-machines and we did not have any trouble with the bacteria count. After we had educated the

milkmen to the certified milk plan they turned out milk of very low bacterial count. We did find that veterinary examination of that herd was important. It was necessary to examine the herd weekly, and practically every time it was necessary to throw out one or more animals on account of mastitis. So the milk-machine was discredited. I hope that next year I can tell you that the milk-machine is the only thing to use. One of the other farms is putting in milk-machines, and we hope that improvements have been made in this machine so that it will not develop mastitis. If we could get machines that would not cause disorder of the udders, the question of the production of sanitary milk would be answered.

DR. HENRY L. COIT, Newark, N. J.: In connection with the initial steps made to secure certified milk, I wish to say that unaided I could never have accomplished it. Without the cooperation of the producer my work in the beginning would have been negatived. Had it not been for the loyal cooperation of physicians my plans would have failed. The name of the dairyman who produced the first quart of certified milk should be recorded in history. It is Stephen Francisco. Without the practical dairyman, the medical milk commission could accomplish little.

Had it not been for the loyal support of the representative medical milk commissions this association would not have been founded. Geier, Freeman, Hamill, Tuley and Myers gave the impetus in founding this movement. I wish simply to supplement the kindly reference to me by mentioning the names of others who did constructive work.

DR. JOHN ZAHORSKY, St. Louis: In St. Louis we have met great difficulty in keeping the bacteria count down to 10,000 because of the hot weather. Generally we have it down even below this, but in spite of the same care it will run up. The commission has insisted on uniform standards. I still think that there will have to be some variation in standard in order to meet climatic conditions. So far as the effect on the infant is concerned, it does not matter whether the bacteria count is 10,000 or 30,000. There will have to be a minimum and a maximum count, and not a definite fixed line.

DR. THOMAS C. MCCLEAVE, Berkeley, Cal.: I do not believe that a dairy which produces milk only under 30,000 has any right to ask for certification by milk commission in any part of this country. The work of North in New York state is probably familiar to you all. We know that he teaches that, under almost any conditions of environment, almost any intelligent dairyman can produce milk of a lower bacterial count than 10,000. In my cities the ordinary market milk is crowding certified milk very closely in the matter of bacteria count, and for us to have on the market in any city a certified milk in which we insist that this count come down to only 30,000 would be most mortifying, when you consider that in that city ordinary market grades of milk may be found to have lower bacterial counts than certified milk. Any dairyman who is not willing to produce his milk under conditions which will guarantee an average of 10,000 or less should not produce certified milk. We have no difficulty in keeping the count below 10,000. Our dairymen themselves would be mortified if we suggested that they come down only to 30,000. The matter of uniformity of standards is, of course, a debatable question. The object of the American Association of Milk Commissions, as I understand it, is to assure to physicians who are not members of the association of milk commissions and the public that when they ask for certified milk in New York or Brooklyn, or Chicago, or San Francisco, or anywhere they know what they are getting. The bacterial count, the care of cows for protection against tuberculosis and all the requirements should be the same. It is even true in this country that there are commissions putting the stamp of guarantee on milk from cows which have not been tested for tuberculosis. The whole propaganda of the milk commissions is discredited by one commission of this kind. We do not expect that every commission will be able to come up to our standards absolutely. In various parts of the country climatic or other conditions may make it impossible to do this; but all we ask is that the commission come up to the standard to the best of its ability. If we have an honest commission the result will be fairly good. When commissions are willing to give their names to something concerning which they know nothing, then we have a product which is misbranded and should come under the ban of the pure food laws. Some members of commissions do not know what certified milk is. That is the reason I wrote this paper—there is so much ignorance as to what certified milk is. In some parts of the country the laity are much better informed along this line than the physicians.

MR. STEPHEN FRANCISCO, Fairfield, N. J.: Our plant does not produce certified milk only. The idea is to make certified milk safe for infant feeding, and I pity the producer who does not consider infant feeding above everything else. It takes more than the cattle there to produce the milk desired. The herd has to be examined every day. There is hardly a day that some cow is not taken from our herd for one reason or another, generally not to return. We are learning something every day, through the suggestions of our physicians, bacteriologists, chemists and veterinarians—every one of whom is giving thought to this matter. Certified milk costs between 12 and 13 cents a quart.

MR. W. E. MILLER, Lebanon, Ohio: The cost of certified milk may be estimated in percentages as follows: Wages, 28.26; supplies, 2.40; stable hauling, .31; power and refrigerations, .58; repairs, 1.31; freight, 5.46; feed, 47.23; cost of certification, 8.42; miscellaneous, 4.79; bedding, 1.24.

I have taken the cost of milk from our books for 1912. This covers one year, and I have taken the total cost of all the items that should enter into the problem and have reduced them to percentages.

There is no uniform system of accounting among the producers of certified milk. Each man must take into account local conditions. It is rather hard to compare the results of two men. Perhaps this can be worked out in the near future. If we can arrive at a uniform way of accounting it will help to clear up the cost of production. We know that in some places the production of certified milk is a fad. Men with more money than they need select this method to get rid of it. It seems to me that philanthropy and business do not mix well. If this movement for the production of certified milk is to succeed, it must be put on a sound economic basis. We do not advance far in any business unless the firm profits, and these profits should include a proper compensation for everyone concerned. I have heard of certified milk selling for from 12 to 20 cents a quart. If the milk is the same all over the United States as it should be, then why this difference in price? Some men say that they cannot afford to sell certified milk for 12 or 16 cents. Perhaps there is something in their organization that needs improvement. We should first be sure that we have approximated 100 per cent. efficiency and then, if the price of certified milk is not sufficient to give a fair compensation, it is time to ask for an increase in price. All fair-minded producers are trying to reduce the cost as much as possible. We have organized our force into three divisions —a cleaning division, a feeding division and a milking division, in order to get 100 per cent. efficiency.

The cost of certification, including the cap as well as the inspection, is 8.42 per cent. I think that the consumer should not be burdened with the unnecessary cost of supervision and capping. We should try to secure trustworthy men, so that the milk need not be kept under lock and key. We must, of course, protect the public as much as possible. After the public is protected our supervision should stop.

Another thing that increases the cost of certified milk is the appearance. We have to take into account the psychology of the situation. Things have to look clean as well as be clean. Can anybody tell me in what respect a white suit is any cleaner than a blue suit or a black suit? It simply looks cleaner. If we are to spread this gospel of certified milk among the consumers, among physicians, we must appeal to the eye. The bacteria count may be good, but the people cannot see the germs; they can see the color of the suit, which may have nothing whatever to do with the bacteria count. That is one thing that keeps up the cost of production. The thing that appeals to me is the advantage of bringing certified milk within the reach of the greatest possible number.

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These cost items do not include distribution. The milk is in Cincinnati, the freight is paid, but the milk has not yet been distributed to the consumer. This certified milk is distributed with the other milk. It is, therefore, impossible for us to distinguish the cost of distributing certified from other products. If we had nothing but certified milk it would be easier.

DR. OTTO GEIER, Cincinnati: Will you analyze the cost of certification?

MR. MILLER: It includes cap and inspection by the veterinarian, inspection by the bacteriologist and chemist and all charges of that nature.

DR. J. W. VAN DERSLICE, Chicago: What is the price per pint?

MR. MILLER: Four and three-quarters cents. Wages and repairs and freight are all higher on certified milk than they are on common milk, and feed also is higher.

DR. T. C. MCCLEAVE, Berkeley, Cal.: Mr. Miller has not answered the question adequately. A large part of the cost of certified milk, as compared with ordinary milk, is dependent on the addition of the actual expense of certification. It depends also on the greatly increased running expenses of the dairy. For instance, the matter of putting in steam sterilizing plants and sterilizing every utensil that is used, requiring men to wear clean suits, which have to be provided and laundered. The cost of tuberculin testing and the cost of the animals destroyed when found to be tuberculous are large items. All those items enter into the question over and above what Mr. Miller specified. If a dairyman started to produce an equal grade with certified milk, irrespective of any relation to the commission, his expenses leaving out fees, would be higher than those of the man who produces in the ordinary way.

DR. J. W. VAN DERSLICE, Chicago: In Chicago the milk is produced practically under two contracts. Under one the man furnishes the bottle, label and certification and sends the milk f. o. b. to Chicago for 12 cents. The distributor orders a certain number of bottles each day. The other contract, which brings the cost of certification and the cost of distribution more clearly before you, is, I believe, the best one. There are four or five firms under contract to distributors, who agree to take the entire output of the firm at 8 cents a quart net, the distributor furnishing the labels, paying the cost of certification and buying the bottles. On that 8-cent basis, the farmer—and the farmer I am speaking of knows how to figure costs—says he is getting $2 a hundred for common milk. In other words, he says the difference between the production of certified milk and the production of commercial milk is that, if he sells his milk as a commercial milk, with the lessened cost which that entails, he would sell it on a graduated scale running from $1 to $1.70 per hundred. For the year 1911 the average was $1.67. For the year 1912 it was a little higher. This man says that he is selling his commercial milk for $2 a hundred. In other words, the men who figure the cost for us most closely tell us that there is a leeway of 40 cents per hundred pounds, or 40 cents per 46 quarts, between the production of certified and commercial milk. This philanthropy then is a fine text for a sermon. They do not talk that to me any more. The men who went into this business first have their money tied up in a big plant. They knew nothing about what the possibilities were for them, but the man who goes into the business to-day does so as a money-making proposition, because there is a market for the product. The rich man wants some place to take his fine friends, and the only possible way to make the farm pay is by the sale of certified milk. There is absolutely no question about it. The big farm to-day that is not selling its entire output is losing money. According to the government reports, over 50 per cent. of the farms are losing money to the owner every day.

Another point I wish to bring out is the value of the superintendent. We can show you superintendents who have changed from one farm to another, and the bacteria count follows the superintendent. You must have a man who knows, feels and breathes certified milk. Another point Mr. Francisco spoke of—in one-half or two-thirds of our farms a prize is held up to the employees on the farm—a bonus of $5 a month if the bacteria count during the month is under 5,000. In that way you have every worker on the farm watching his coworker to see that there is no carelessness. Every man wants that $5.

DR. OTTO P. GEIER, Cincinnati: There is nothing about which there is so much confusion as the cost of certification. I attempted several years ago to make a survey of the methods used by the different commissions of the country and to define in my own mind, at least, the broad problem of the cost of certification. There are just as many methods of arriving at the cost of certification as there are milk commissions in the country. One commission charges a per bottle tax and supplies nothing but the chemical and bacterial work and veterinary inspections. The next one charges a flat rate for each bacteriologic chemical and veterinary examination, and the producer buys his caps. In still another instance the producer pays a per bottle tax and the chemical, bacteriologic and veterinary inspections are made by the commission. The commission also buys the caps and seals out of the per bottle tax income. So you have just as many variations in the matter of arriving at the cost of certification as you have commissions. I have not seen the figures shown here before. At first sight they seem unreasonably high. I should remark, however, in the interest of Cincinnati that the commission does many things for the producer. It supplies the caps and seals, medical inspections, veterinary inspections and chemical and bacteriologic examination, which are done biweekly, and more frequently if there is any trouble at the dairy. The commission is able to maintain a laboratory for this work in connection with the office of the commission. The bacteriologist and chemist and his assistant, as well as the medical profession of the community, are at the call of the dairymen. The commission also does propaganda work, thus advertising the product of the dairymen and in a general way serving the community from a broader point of view. Everything else being equal, it is fairer to use a per bottle tax than a tax which applies only to the various examinations. In a per bottle tax the large producer helps pay the load of the smaller producer.

MR. W. E. MILLER, Lebanon, Ohio: The cost of keeping up the herd is based on the assumption that the herd is practically stationary. Individuals go out, but others come in. We have practically no loss from the tuberculin test. As a matter of fact, the herd increased in value during the time under discussion. As to repairs, our aim is to keep the equipment in the original condition. It is practically as valuable now, because of improvements made from time to time, as it was in the beginning.

PATHOLOGY OF THE PROSTATE*

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Sixty-eight years ago Samuel D. Gross[1] stated that the prostate gland consists of "two lateral lobes and a small pyramidal tubercle, which is a small portion of the gland in a state of hypertrophy, described as a third lobe by Sir Edward Home."

In Keen's edition of "Gray's Anatomy" published in 1887 I find that the prostate has "two lateral lobes of equal size separated by a notch. A third or middle lobe is a small transverse band, occasionally a rounded or triangular prominence placed between the two lateral lobes.

* Read in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

1. Gross, Samuel D.: Elements of Pathologic Anatomy, Boston, 1845.

According to Gerrish[2] the prostate consists of two lateral lobes.

In Cunningham's "Anatomy," 1903, we find the following statement:

> The somewhat wedge-shaped portion of the prostate, which lies between the ejaculatory ducts and the posterior aspect of the urethra receives the name of the *middle lobe*. . . . The rest of the prostate is described as being composed of two large lateral portions or *lateral lobes*."

White and Morton, 1907, say that "the prostate is made up of two lateral lobes connected by an isthmus."

Many more authors of comparatively recent date could be quoted, using about the same language in each case, namely, that the prostate is made up of two, or at most three, lobes, with no definite or comprehensive description of their relations. Nothwithstanding the fact that much good research work has been done on this subject by several investigators, it seems to have encountered the same difficulty of most new subject-matter in penetrating the covers of the average text-book. It is kept from their pages because there is no room remaining after the stereotyped matter that has been handed from generation to generation is given its accustomed place of prominence.

Among those who have developed the embryology, histology, anatomy and pathology of the prostate so that now we have a definite knowledge of this subject that can be accepted are Young, Geraghty and Stevens, 1906, von Frisch, 1910, Tandler and Zuckerkandl, 1911, and Lowsley, 1912.

While many others have studied this subject in detail and have published excellent monographs, it seems to me that these four reports which have appeared in the last seven years cover about all that is of value pertaining to these phases of the prostate gland. When some one works out a definite etiology of prostatic hypertrophy the last chapter on the prostate gland will have been written.

In view of the fact that most of the data on this subject are of recent date it seemed advisable to present at this time a summing up in concise form a sort of working knowledge and to further stimulate a more general interest in this important region of the body.

That there may be no confusion as to terminology it seems advisable that a definite understanding be had regarding the various portions of the gland. According to Lowsley these are as follows:

> The middle lobe, or that part of the gland which is situated between the bladder and the ejaculatory ducts under the floor of the urethra (prespermatic and posturethral). Lateral lobes or those parts of the gland which arise from the prostate furrows and the lateral walls of the urethra and extend laterally and posteriorly from that structure. Posterior lobe, or that part of the prostate which lies dorsal to the ejaculatory ducts above their entrance into the urethra and dorsal to the urethra below this point (postspermatic and posturethral). This is the part of the prostate which is felt per rectum. Ventral lobe, or that part of the organ formed by glands arising from the anterior or ventral wall of the prostatic urethra.

EMBRYOLOGY

Lowsley's investigations of the development of the prostate gland consisted in serial sections of prostates and surrounding tissues obtained from human fetuses varying in age from 10 weeks to full term. He found that the prostate gland begins to develop during the third month of fetal life.

> The tubules which compose it make their appearance as solid epithelial outgrowths from five distinct parts of the prostatic urethra. These solid masses of deeply staining cells very soon become circularly arranged around the lumen, and branches are found very early. The five foci from which groups of prostatic tubules take their origin are located as follows: on the floor of the urethra between the neck of the bladder and the openings of the ejaculatory ducts and utriculus prostaticus, one in each prostatic furrow and on the sides of the urethra, on the floor of the urethra below the openings of the ejaculatory ducts and the utricle, and on the ventral or anterior wall of the prostatic urethra. The tubules originating from these five foci by their further growth and the development of the stroma around them become the middle, right and left lateral, posterior and anterior lobes, respectively. In early fetal life they are widely separated from one another, but in later stages the separation between the middle and two lateral lobes is not very great. There is not an intermingling of tubules in any of the specimens studied, but in many places in the new-born the tubules of the middle lobe are observed side by side with those of the lateral lobes, there being no definite capsule separating them. The separation of the posterior lobe from the others is complete, as there is a rather dense layer of fibrous tissue between it and the lateral lobes. The anterior lobe is widely separated from the two lateral lobes.

There is but little difficulty in demonstrating these five lobes in post-mortem specimens, or in the prostates removed entire, during life.

HISTOLOGIC ANATOMY

The prostate reaches its full normal development about the twentieth year. The capsule or external portion is not a true capsule in the sense that it can be easily separated from the gland, but it is made up of musculoconnective tissue from which bands extend into the body of the gland surrounding the alveoli of the glandular structure. The various lobes normally have no distinct capsular separation from each other. The gland tissue communicates through numerous duct openings with the posterior urethra. It is through these openings and along the tubules that infection easily finds its way into the prostate gland from the urethra.

The prostate is in close relation with the bladder, it surrounds the urethra, is attached to the pubic arch and is very narrowly separated from the rectum. A dense plexus of veins partially envelops it.

PATHOLOGY

The most frequent cause of prostatic disturbances is the gonococcus which invades the glandular structure from a posterior urethritis. The prostatitis thus produced may be simple and confined to small areas or it may be quite general involving a large portion of the gland. There may be only an acute inflammatory condition produced or there may be abscess formation. In the latter the abscess or abscesses at times develop very early, as soon as three weeks, following the infection of the posterior urethra. It occasionally happens that about the time the abscess on one side of the prostate has been cared for there develops another on the other side.

Many cases of gonococcic infection of the prostate cause but few symptoms, yet the gonococci are resting quietly to be aroused from their lethargy following a period of dissipation and excesses by the one harboring them. Or possibly he has been contemplating matri-

2. Gerrish, Frederic H.: In Text-Book of Anatomy, Philadelphia, 1899.

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mony and has been on his good behavior, indulging in neither alcohol nor sexual gratification for months; yet shortly after marriage a urethral discharge develops, and too often an innocent wife becomes infected from a well-meaning but still infectious husband.

The prostate must not be held responsible for all such late infections, however, for the seminal vesicles are more frequently infected than was formerly supposed. Owing to the close relation between the prostate and seminal vesicles it is very difficult to state when one is involved and not the other. In many post-mortem specimens examined I have found a perivesiculitis so pronounced that it was no easy matter to determine by touch where the prostate ended and the vesicles began. I am convinced that we have often made the mistake of diagnosing prostatitis when in fact it was seminal vesiculitis. That it is possible for the vesicles to be pathologic with a normal prostate has been proved several times in the post-mortem specimens examined. Most of my material was gathered from the Cincinnati City Hospital, and normal seminal vesicles were rare.

Tuberculosis of the prostate may be primary, but is in most cases secondary to tuberculosis elsewhere in the body, and is usually secondary to tuberculosis elsewhere in the genito-urinary tract. Most frequently tuberculosis of the kidneys or epididymes precede invasion of the prostate. Among the cases that I have been able to examine post mortem there has been found only one of tuberculosis involvement of the prostate in which the seminal vesicles have escaped the same infection. Often it is the seminal vesicle and that side of the prostate corresponding to the epididymis, right or left, that is involved. Since tuberculosis of the prostate is seldom if ever the primary focus of urogenital tuberculosis and is almost always associated with tuberculosis of the seminal vesicle, the futility of surgical treatment can readily be understood. In these cases it is also frequently difficult to locate on rectal examination the upper border of the side of the prostate involved, as it is coalesced with the seminal vesicle by new inflammatory tissue.

Calcareous deposits are not infrequently found in the prostate in late adult life. This may be in the form of small accumulations of calcareous material disseminated through the gland, or a single large calculus, or a pocket containing many hundred small calculi.

SENILE CHANGES

Many men past 50 years of age have urinary disturbances. The large majority of these are due to pathologic changes in the prostate gland. Nevertheless it must not be taken for granted that because a man is more than 50 and has urinary trouble, that it is necessarily due to the prostate. Recently a man aged 62, who had been treated for hypertrophy of the prostate for some time, was referred to me for operation. His troubles were all due to a very tight stricture in the bulbous portion of the urethra which had developed subsequent to a gonorrheal urethritis contracted more than twenty years previously.

Senile changes from the normal morphology of the prostate are three: (1) adenoma, new growths in the glandular stricture; (2) increase in the relative amount of stroma, fibrosis, and (3) malignancy.

Any one or all three may be present in a single case. In the very large prostates there is an enormous development of adenomatous tissue with practically no increase in amount of the stroma or musculoconnective tissue. This variety can easily be felt per rectum and is not hard.

When the interglandular tissue, the stroma, is unduly increased in amount the obstruction is not so large and feels hard.

Of the five lobes all may undergo these morphologic changes classified as hypertrophy, except that portion below the ejaculatory ducts, the posterior lobe. The most frequent origin of adenomatous growth is in the middle lobe, just beneath and behind the internal urethral opening. The anterior group of glands or lobe is seldom involved in this process, the lateral lobes rather frequently. Tandler and Zuckerkandl in their study of many post-mortem specimens of prostatic hypertrophy always found the middle lobe involved. While I am not in a position to say that enlargement of the lateral lobes are not always attended by morphologic changes of the middle lobe, I do know that many patients have been clinically cured on removal of later enlargements when no middle lobe could be felt. There is an endless variety of shapes and contours of these new growths, and their effect on the posterior urethra and the internal urethral orifice is varied. That portion of the urethra between the collicle (verumontanum) and the bladder is elongated and distorted in many ways, being flattened, twisted and pushed to one side or the other of the middle lobe.

The gland, which normally is entirely extravesicular, becomes both extravesicular and intravesicular, the enlargement pushing up into the bladder around the vesicle orifice. The sphincter vesicae is crowded from its normal position about the internal meatus and is found surrounding the intravesical portion of the new growth. In its normal state this gland can be felt per rectum, but in no way intrudes on the rectal lumen. Many hypertrophies become so large that they act as a decided rectal obstruction.

A few of our specimens show a distribution of adenomatous growths entirely around the urethra, involving the anterior, two lateral and middle lobes. These are the rings or urethral collars that are very troublesome to the patient and are difficult of removal.

The so-called "prostatic bar" is either not prostatic or not a bar. In the first instance it is a fibrous bar which has developed about the internal sphincter as a result of chronic inflammation in the posterior urethra and occurs earlier in life than true prostatic changes. In the second instance if the obstruction is of prostatic origin it is not in the form of a bar, but is an enlargement of the middle lobe, and changes the shape of the internal meatus from a normal funnel appearance to that of an inverted crescent.

As was mentioned earlier in this paper there is no true normal prostatic capsule from which the prostate can be removed. The surgical capsule which surrounds the adenomatous growths is the prostate crowded to the side during the development of the adenomata. This when examined microscopically shows both stroma and gland tissue closely compressed. Squiers has called our attention to the ease with which the line of cleavage or separation between the surgical capsule and the new growth can be found, when we seek for it in the roof or anterior portion of the prostatic urethra. In the large majority of cases there is nothing but mucous membrane covering the new growth at this place. There are some cases in which this is not true, and these are difficult of removal.

Not infrequently a patient with marked prostatic symptoms, whose prostate feels very large, is relieved of his trouble and the gland noticeably reduced in size after a few days' rest in bed, free catharsis and continuous bladder drainage. The symptoms were due to an acute

engorgement or stasis in the prostatic venous plexuses, and when the predisposing causes of this were removed the symptoms disappeared. If allowed to go without surgical interference, as he should be, the patient may live comfortably for a long time without further trouble.

I am not yet convinced that a simple prostatic hypertrophy has any tendency to undergo a malignant degeneration; hence cancer is not to be feared as a later development of hypertrophy. If the patient has cancer of the prostate his trouble began as a malignancy and did not become such after he had suffered many years from an adenomatous overgrowth.

The posterior lobe is the locus of origin of practically all of the malignancies of the prostate, which are simple carcinoma, adenocarcinoma or sarcoma, the latter exceedingly rare. It is possible for the same patient to harbor both hypertrophy and cancer, since these two pathologic processes attack different parts of the gland.

Cancer originating in the posterior lobe soon obliterates the natural groove or furrow felt in the prostate per rectum. The disease may be confined to the gland or invade the surrounding structures. In one case of far-advanced carcinoma of the prostate I found, when doing a palliative operation, a degeneration or breaking down of the periphery of the cancer, and a solid mass of cancerous tissue was removed without dissection, decapsulation or cutting, as it was retained in this space much as a foreign body.

CONCLUSIONS

1. The prostate gland has five distinct glandular areas, which may be termed lobes.

2. Pathologic changes in the seminal vesicles are often overlooked and the prostate alone considered, when in fact both are involved.

3. Tuberculosis of the prostate is seldom found without the same infection of seminal vesicles.

4. Prostatic hypertrophy is usually a simple adenomatous growth which crowds the normal prostate, so as to form a surgical capsule. In the roof or anterior portion of the prostatic urethra these new growths are covered with but little more than mucous membrane.

5. Malignancy of prostate is confined to the posterior lobe.

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ABSTRACT OF DISCUSSION

DR. JOHN T. GERAGHTY, Baltimore: Our ideas regarding the pathology of hypertrophy of the prostate have changed considerably in recent years. At first, it was considered that the adenomatous process involved the whole prostate, but now it is quite generally conceded that the entire gland is not involved in the pathologic process. Albarran and Motz some years ago concluded from their studies that only the central portion or the central group of glands was the seat of hypertrophy. More recently, Tandler and Zuckerkandl brought forward the view that hypertrophy involved only the middle lobe, and this view seems to be accepted almost universally. At present the prostate at birth and in the adult is composed of (1) a posterior lobe which forms the largest part of the prostate, as felt by rectum; (2) the two lateral lobes which are fused beneath the urethra with the embryologic middle-lobe tubules; (3) the anterior lobe which in the adult prostate is usually insignificant and contains only a few scattered glands, and (4) groups of accessory glands, one group lying beneath the mucous membrane at the vesicle orifice inside the sphincter and usually referred to as Albarran's glands. Another group of glands described by Home is occasionally found beneath the mucous membrane of the trigon. This latter group is much more inconstant than the Albarran group. From my studies of prostatic hypertrophy, I am forced to disagree with Tandler and Zuckerkandl that hypertrophy originates only in the middle lobe and that the lateral masses take no part in the process. In an examination of cases of very early hypertrophy, it is possible to demonstrate the presence of the adenomatous nodules in the lateral lobes, when none are present in the portion corresponding to the median lobe. The median and lateral lobes are, as a rule, equally involved in the pathologic process, while the posterior lobe is the only part of the prostate which does not take part in the hypertrophy. As I have previously pointed out, this posterior lobe plays an important rôle in cancer of the prostate. When carcinoma arises in a prostate previously the seat of a benign hypertrophy, it does not result from the degeneration of the benign adenomatous tissue, but begins in the posterior lobe, which is the non-hypertrophied portion. The recognition of this fact is important in both the diagnosis and radical treatment of cancer of the prostate.

DR. BRANSFORD LEWIS, St. Louis: Ten years ago I called attention to the wide variations that occur in these obstructions in connection with hypertrophied prostates and their bearing on the choice between suprapubic and perineal prostatectomy. At that time I argued that there were some cases that demanded suprapubic prostatectomy, others that demanded a perineal operation and others that demanded no operation. It depended on the types that Dr. Smith has so graphically described. Later studies have, I think, confirmed that position, and I still believe that it is the proper one to take in relation to the choice of operation.

CHRONIC CYSTITIS IN WOMEN NOT A DISEASE *

GEORGE GILBERT SMITH, M.D.
BOSTON

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The demonstration to this section of the thesis that persistent cystitis in women is in itself not a disease, but is the result of pathologic conditions outside the bladder, strongly resembles the importation of coal into Newcastle. That this conception of cystitis is not generally held by medical men, however, has been illustrated many times in the women's room in the genito-urinary outpatient department of the Massachusetts General Hospital. A number of cases diagnosed as "cystitis" and accompanied by a too long-deferred request that they be studied have been sent there, not only by outside practitioners, but in some instances by other departments. With practically every one of these patients, the time spent in useless bladder lavage had been wasted, and in some the delay had been even more injurious because of the headway which it had afforded the disease.

Every urologist knows that the normal bladder is extremely resistant to infection. Only when its mechanics or its circulation are disturbed, or when it is continuously flooded by infected urine from the kidneys, does it succumb to bacterial invasion.

Proof of the resistance of the bladder to infection may be found in the rarity with which cystitis follows catheterization or even cystoscopy of the normal bladder. Williams, Murray and Wallace[1] found colon bacilli in the urine of twenty-four women in twenty-six, after

* Read in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

* From the Genito-Urinary Service of the Massachusetts General Hospital.

* Because of lack of space, this article is abbreviated in THE JOURNAL by omission of the case-reports. The complete article appears in the Transactions of the Section and in the author's reprints.

1. Williams, Murray and Wallace, Liverpool Med.-Chir. Jour., 1912 No. 62, p. 425.

operation, yet none of them had cystitis. Not only is the bladder resistant to new infection, but inflammation of long duration will frequently clear up with surprising rapidity, once the cause of it is removed.

It is not my contention that simple cystitis never occurs. In my series, there is one case of syphilitic cystitis. Acute trigonitis, frequently mistaken for cystitis, may follow infection by the gonococcus. Inflammation may, and usually will, result from the intense congestion caused by the too sudden emptying of an overdistended bladder. The trauma of childbirth reduces the resistance of the bladder to those bacteria which ordinarily would pass through it without effect.

It is my belief that these cases of acute cystitis will be cured by a few days in bed, urinary antiseptics and a few irrigations. When the inflammation persists, in spite of these measures, we must look for some other lesion, either in kidney or ureter, in pelvis or urethra, or in the mechanism by which the bladder should be emptied.

In order to test the soundness of this belief, I have collected the histories of ninety-eight women with cystitis. Some of these were ward cases, some outpatients at the Massachusetts General Hospital. All have been seen there within the past five years. These ninety-eight patients comprise all of the cases of cystitis found in the diagnosis catalogue for that period, whether or not occurring in conjunction with other diagnoses. There are also included a few cases of pyonephrosis in which cystitis was present, and ten cases diagnosed as urinary tuberculosis. The last-mentioned were included because the symptoms for the relief of which the patients came to the hospital were those of bladder irritability. No cases of calculus were considered.

Definite evidence of cystitis was required, thereby excluding several cases of "irritable bladder," the urine of which contained neither pus nor bacteria. The process was either seen to exist at cystoscopy, or else was indicated by the symptoms of frequent and burning urination, accompanied by pus or bacteria in the urine. Cases not showing one or the other of these requirements were rejected.

In classifying the cases according to their probable diagnosis, considerable care was observed. In many of the records the evidence was conclusive, as for example, finding the colon bacillus and pus in the urine from ureter catheterization. In others, it was only presumptive, as in a case in which a large, tender kidney, temperature of 102 and colon bacillus from the bladder urine pointed so strongly to pyelitis that there could be no reasonable doubt of the existence of that disorder. In five cases the facts were too inconclusive to admit of any definite diagnosis, and in eleven cases there were too few facts for the record to be of any value whatever.

In eight of the ninety-eight cases there was unilateral pyonephrosis. Two more patients were proved at operation to have focal necrosis. One, at necropsy, showed suppurative nephritis.

In thirty cases the diagnosis was pyelitis or pyelonephritis. In the absence of very careful study, it is impossible to differentiate between these conditions, so that I have grouped these cases together. In sixteen the diagnosis was definitely established by obtaining pus or bacteria, or both, in specimens from the ureter. In one, both ureters were dilated and both kidneys tender; in another, necropsy showed a pyelonephritis. In twelve the diagnosis was based on circumstantial evidence, such as renal pain, fever and a marked albuminuria, accompanied by painful, frequent urination, and pus and bacteria in the urine.

There were five cases of pyelitis in which the evidence pointed more or less directly to an obstruction at the ureteropelvic junction. In one the pelvic capacity was 45 c.c.; in another, 60 c.c.

One case thought to be pyonephrosis proved at operation to be an infected hypernephroma.

Considering this group of forty-one cases of renal infection as a whole, it is an interesting fact that in twenty-nine a bacillus, probably colon, alone was recovered, in two, the colon bacillus plus a diplococcus in one case, a streptococcus in the other. In one case, diplococci and streptococci were found; in another a "mixed growth." In two cases some pus was obtained, but it yielded negative cultures and negative guinea-pigs. In five, no mention of the bacteriology was made. These figures suffice to show the overwhelming predominancy of the colon bacillus in renal infection.

The route by which the kidney is infected has been the subject of much discussion. Two of the pyelitis patients had colon bacilli in the blood as well as in the urine, a phenomenon which may as well have been the result as the cause of their infection.

In five cases there is at least superficial evidence that the trouble began in the bladder and ascended to the kidneys, but here again one may argue that the cystitis was the effect rather than the cause. The fact that renal infection may occur without cystitis, but that cystitis (excluding that due to cystocele, stricture, etc.), never occurs without a renal infection, is in my opinion the most telling bit of evidence against the ascending route.

There were seventeen cases of urinary tuberculosis. In five of these the tubercle bacillus was present in ureteral specimens. In nine more tuberculous kidneys were removed. Another one, with sterile pus in the urine, exhibited a pathologic ureteral orifice. In another patient, whose bladder urine infected a guinea-pig, the right ureteral orifice was of the retracted, golf-hole type. In the third, in which the guinea-pig died too soon for diagnosis, the bladder-pus was sterile and the left ureter pathologic. Every case of tuberculosis showed evidence of renal involvement.

Two patients had cystoceles. One had a pyelitis (colon) as well. The other was cured by perineorrhaphy and a few irrigations.

Three strictures of the urethra were found. Two of these had sterile urine containing no macroscopic pus; one of them, on cystoscopy later, showed a few trigonal ulcerations. Both, however, had marked frequency and pain on urination.

There was one case of ureteral stricture, with a pyelonephritic kidney behind it and great vesical distress, and there was one tabetic bladder. The more acute stage of syphilis was represented by an ulcerative cystitis which cleared up, after obstinately resisting other forms of treatment, on mercury and potassium iodid.

Three cases of cystitis were apparently due to pelvic inflammation. In one, the bladder was adherent to the appendix; in a second, to the uterus; in a third, there was a coexistent acute salpingitis.

In five cases the diagnosis was not made with certainty. The patient in Case 84 gave good evidence of having a stricture of the ureter. In Case 85 there had been cystitis ever since a nephrectomy (cause unknown) eight years before. In Case 86 a subsiding cystitis was shown with slight evidence of a previous pyelitis. The patient in Case 87 had severe renal colic, associated with hematuria. Case 88 was apparently due to mobility of

the right kidney, in which a low-grade infection had set in. This patient had a little pus in the urine, from which no bacteria could be grown. She wore a kidney belt, put on 20 pounds in weight, and all the symptoms disappeared.

Eleven cases were so insufficiently studied that no conclusion could be reached.

We have remaining, therefore, eight cases of the ninety-eight in which a simple cystitis was found. The patient in Case 76 was apparently cured by rest in bed for eight days, with hexamethylenamin (urotropin) by mouth and a daily silver nitrate lavage. Case 77 showed a red trigon with a few ulcerations. There was no bacilluria and a negative guinea-pig inoculation. This patient had a postural defect, with exaggerated knee-jerks, and it is possible that some trophic disturbance might have been the cause of her cystitis. Case 78 was insufficiently studied, inasmuch as the ureters were not catheterized, the cystoscopist relying on the appearance of the ureteral jets. Case 79 was coexistent with a gonococcus urethritis. Cases 81 and 82 were due to continued use of the catheter required by the general condition. Cases 80 and 83 were part of typhoid and paratyphoid infections.

Summary of the eighty-seven cases with diagnoses shows that cystitis was associated with:

Renal infections, not tuberculous, in	61 per cent.
Renal tuberculosis	19 per cent.
Difficulty in emptying bladder	7 per cent.
Systemic and pelvic infections	7 per cent.
Other causes	6 per cent.

We see, therefore, that in ninety-eight cases there is not one well-studied case of simple cystitis. Every case which was really studied showed a certain or presumptive underlying cause. It cannot be that simple chronic cystitis which is worthy of the name exists with any frequency, or it would, I am sure, have appeared within these records.

The outpatient department attracts often the most trifling ailments; it is hardly possible that it should not have drawn in a few cases, at least, of simple chronic cystitis, did that disease exist.

The answer is obvious: it does not exist. It is the duty of the urologist to drive that fact home, and to impress on medical men and the public the necessity of thorough study in every case of persistent inflammation of the bladder.

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ABSTRACT OF DISCUSSION

DR. BRANSFORD LEWIS, St. Louis: In the treatment of cystitis we ought to repress as much as possible the idea that cystitis is an original disease and say that there is no treatment for cystitis, except as it is based on a definite recognition of the cause. The more we can affirm that idea the better for progress in urology. I have for a long time followed the policy that, even though I thought the location of an infection in the urinary tract was in the vesicles or the prostate or the posterior urethra, if I did not make progress, I would do cystoscopy and ureteral catheterization; I have often surprised myself by finding the presence of an infection in one or both kidney pelves. It is often more important to establish the origin of the infection than just the kind of infecting microbe that is present.

Another point relates to the amount of reliance to be placed in ureteroscopy through the cystoscope. I do not have much confidence in my own ability in that direction, or in that of others. I had a peculiar case lately in a girl, 17 years old, whose right kidney was full of stones, necessitating the removal of the kidney, and on the other side a certain degree of infected pyonephrosis without the presence of stone. I have been washing out that kidney pelvis. The question comes up whether it would be necessary to do a nephrotomy for a more positive drainage, or maybe change the position of the kidney, as suggested by Dr. Fowler.

DR. O. S. FOWLER, Denver: Dr. Smith has not taken into consideration one class of cases in which we see cystitis; that is, cases of cystitis following either pelvic or abdominal operations, especially cases in which catheterization has been resorted to afterward. I have seen a number of these cases, and they cause a great deal of trouble. Some of these patients, however, while not having been catheterized, do recover after the washing out of the bladder. In those cases it would seem as if the infection did not extend upward, for in a great number of them we do get kidney symptoms. I have had the opportunity of working out some of these cases and have proved that an infection came from the kidney. I should like to ask Dr. Smith what his experience has been in reference to the postoperative catheterization of women.

DR. W. T. ELAM, St. Joseph, Mo.: Unless there is some definite bladder pathology the word "cystitis" is not applicable. In certain nervous conditions there may be urinary symptoms that resemble to some extent a cystitis. The condition is not a cystitis, however; it is merely a neurosis; and it exists not only in women, but also in men.

Dr. Fowler referred to catheter cystitis. We all know that a congestion may exist as a result of catheterization, which may give a little irritation and may perhaps result in burning and frequent urination. That is not a cystitis unless there is an infection and a pathologic condition which means inflammatory exudates, serous and cellular. A chronic cystitis, in my judgment, is some chronic change in the bladder walls or mucosa. The doctor's statistics are, beyond all question, of value. If they could have been supported by microscopic examinations of the bladder tissue, thus determining absolutely that there was no disease in the bladder, then we could quickly make the attempt to rule out chronic cystitis. After childbirth and after operation, whether catheterization has been done or not, we have urinary symptoms that often appear to be relieved not only by lavage, but simply by introducing a permanent catheter and draining the bladder; yet we all are willing to admit that bladder irritation may come as a result of pyelonephritis or of pyelitis or an involvement of the upper urinary tract. There are a great many cases apparently of neurosis of the bladder, especially in women.

DR. M. KROTOSZYNER, San Francisco: I wish to emphasize the importance of expectant treatment, which is apt to yield excellent results in a good many cases of cystitis or infection of the bladder. Being well trained in the use of modern instruments, urologists, as a rule, resort too quickly to instrumentation, by means of which the patient's untoward symptoms are often intensified. Instrumentation for diagnostic purposes is strictly indicated, however, in all forms of bladder irritability that are not benefited by judicious local treatment. In young women particularly the initial symptoms of renal tuberculosis may be marked by frequent and painful micturition, and an early diagnosis in these cases is feasible only on the basis of careful and repeated cystoscopic examinations.

DR. J. R. CAULK, St. Louis: I agree with Dr. Smith that the great majority of bladder infections are secondary to some other influence. I do not believe strongly in the neurotic element, the nervous bladders in young women particularly. I have seen any number of cases in which patients have been doomed to a life of neurasthenia as a result of this belief, and I think that this section ought to correct this impression.

I do not think that nerve lesions exist and cause distress, but I believe that all these neurotic bladders have something back of them. In the great majority of cases sent to me with that particular diagnosis I have found some lesion in the pelvis—fibroids in the anterior wall of the uterus, or some lesion in the appendages—and I do not believe that we ought

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to say that a person is suffering from a nervous bladder until we have utilized every means at our disposal to rule out every lesion in the pelvis and upper urinary tract.

DR. THOMAS M. PAUL, St. Joseph, Mo.: In regard to the manner in which the *Bacillus coli* reaches the kidney or bladder: There is a source of infection which I believe is usually overlooked. In the act of defecating in the modern toilet, as the fecal mass drops into the water there will be a return splash. The first splash may be composed entirely of clear water, but the subsequent splashes, resulting from the continued dropping of fecal masses, will contain many bacteria. While the mucous surface exposed in the male is small, and infection cannot readily take place, in the female it is much larger and contamination of the vulva is sure to occur. If this be true, it is easy to understand how an infection of this kind can ascend through the urethra and cause a cystitis.

DR. A. L. CHUTE, Boston: The last point is well taken, because these persons are all made better by treatment of the bladder, although the source of the infection is above. The bladder is, of course, improved under lavage; therefore these treatments are given forever. In these cases I think that there is not only an infection of the kidney pelvis, but also a kidney pelvis that does not drain itself. My own belief is that disease of the kidney pelvis in the ordinary person, barring tuberculosis, is cured if there is drainage.

DR. G. G. SMITH, Boston: I hoped that this paper would elicit more discussion. I wanted to find out if any of you really have had cases of persistent cystitis in which careful examination showed no source of infection in the kidney or in the mechanism of emptying the bladder, and I must say that although several men have suggested to-day that they have seen such cases of chronic cystitis, no one has mentioned any case which has been thoroughly studied and in which the infection was shown to be residual in the bladder alone.

The criticism was made that in this paper I have considered a number of cases in which true cystitis did not exist. That is not so, because I said, "One of two pieces of evidence was required; either the bladder was seen to be inflamed at cystoscopy, or pus and bacteria were found in the urine."

I have not seen much of the cystitis which follows operation on women. It seems to me that what usually happens is that the woman is allowed to go without urinating until her bladder becomes much distended and then she is catheterized. As we know, catheterization always induces hyperemia, and, as has been shown by the men I quoted, the colon bacillus is present in the urine in twenty-four out of twenty-six women after operation. The bladder is congested by being suddenly emptied, and it becomes infected. Thus you do have a cystitis in these cases, but it clears up under a comparatively simple line of treatment. If it does not do so the infection is found to be seated in the kidney.

I am glad that Dr. Chute brought up the point that bladder lavage will help in these cases of renal infection, because that is true. I have in mind now a patient who was benefited by lavage as long as she kept it up. I grew colon bacilli from both kidneys, and found pus in the urine from both kidneys. Yet she came for bladder lavage because it made her feel better. Infection by the use of toilets does not seem probable for this reason: If cystitis occurred from that we should more often see a pure cystitis without kidney involvement. It seems to me that a strong point in favor of the descending route is the fact that, whereas you may find a pyelitis without a cystitis, you rarely, if ever, find a cystitis without a pyelitis.

Recruits for the Army.—Great difficulty is experienced by the War Department in securing a sufficient number of suitable recruits to fill existing vacancies, on account of the mental and physical degeneracy of the young men who present themselves for examination. During the year of 1912 only 35,837 recruits were accepted from 159,673 applicants examined, a rejection of 76 per cent.—L. M. Mervin Maus, in *Chicago Med. Recorder*

THE PREPARATION OF PRIVATE HOUSES FOR OPERATIONS

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It is perfectly feasible to arrange private houses for operations so that the lack of hospital facilities need not be felt. An abdominal operation is, of course, more easily done and the patient more easily cared for in a hospital than at the patient's home, but even this type of operation can be adequately cared for at home, provided the preparation is sufficiently well made. Ordinary operations, especially plastics for the repair of the injuries of childbirth, are satisfactorily done in the patient's home. A trained nurse, or one at least accustomed to the care of surgical cases and with a working knowledge of asepsis, is most desirable, but not indispensable, provided the physician is willing to give minute instructions as to the care required and to attend to such details as catheterization himself.

The Choice of a Room.—If possible, the room should be one adjoining the patient's bedroom, and preferably not the patient's own room. The patient is thus spared the sight of the necessary preparation. The paramount question is one of light, and the operating-table should be so placed as to get the maximum amount, hence, near the window. The window can be screened against outside observation by covering it with a single piece of gauze or by pinning together the curtains, provided they are of a material which will transmit the light without too much diminution, or even by soaping or whitewashing the pane of glass. Except for an abdominal operation it is not necessary to strip the room or take up the carpets or rugs. The floor can be protected by newspapers, thickly laid, and over these a sheet, wrung out of a 1:1,000 bichlorid solution, should be spread and should be damp when the operation is begun. Any unnecessary hangings ought to be removed and the furniture moved to a part of the room where it will be out of the way and covered with sheets. The walls in the immediate vicinity of the operating-table should be protected by sheets held up by the glass-headed pins known as Moore's push-pins, and not by tacks. The pins leave no scars, as tacks do, especially in wall-paper and plaster.

The Operating-Table.—This should preferably be one of the models of portable, collapsible operating-tables, but this is by no means a necessity. A kitchen table with sufficient strength of legs answers every purpose. If this is used, the top must be thoroughly scrubbed and then thickly padded, as the thinly padded table is a prolific cause of backache after operations. In many operations, notably perineal operations, a Kelly pad is a most desirable addition; but one that will answer every purpose can be improvised by rolling up rubber sheeting at the sides and back, or even newspapers covered by towels or sheets. The special tables are provided with stirrups and leg-holders for the lithotomy position, when this position is desired. The kitchen table can be equally well equipped with either the Edebohls portable leg-support, which clamp on the edge of the table, or, much better, by a rolled sheet tied about one knee, passed back over one shoulder and out under the other (so that pressure does not come altogether on the patient's neck) and fastened above the other knee. The knots should be on the outside of the leg. This makes the best leg-holder I know. If the Edebohls supports are used, it will be

found necessary to tighten the screws with a wrench (no one's fingers are strong enough), for, if the patient should strain, the leverage is enormous. If a chair or stool is needed, a piano-stool draped with a sheet is most satisfactory, but a plain chair (not too low) will answer. The end of the Kelly pad, or its substitute, should drain into a bucket or slop-jar which has been well scalded out.

The special operating-tables have apparatus for the Trendelenburg position; the kitchen table can be equally well equipped by raising the two legs on blocks or bricks, or even, if the extreme position is desired, on the seats of two chairs. The whole table is best draped in a sheet, although this is not essential.

Instrument- and Dressing-Tables.—Two of these are required, one on either side of the operating-table. As these tables often have polished tops, adequate protection must be provided. This is best done by covering the top thickly with newspapers, placing on these a large tin tray and covering all with a sheet, draped so that it will touch the floor on all sides. This is to protect the legs and sides.

Douche-Bag.—This is needed in all perineal operations, and a more efficient means of splashing the wall-paper than an improperly hung douche-bag can hardly be devised. A suitable hook is provided, preferably in the window-frame. An open towel is placed over this hook so that the center of the towel is over the hook. The bag is hung on the hook and the towel allowed to drape down over it. This has proved an adequate protection. The douche-bag and tube are, of course, prepared by boiling.

Instruments.—It is best to boil these where the physician and nurse can keep an eye on them. A large alcohol lamp and a copper tray sterilizer or basin will be satisfactory. If an alcohol lamp is placed in the bathtub, and the instruments are sterilized there, it will guard against the danger of upsetting them and possibly a conflagration. If the instruments are sterilized over the kitchen stove, servants must be warned not to touch them. I have seen a servant dig the various instruments out of the sterilizer with a stove-lid lifter and speculate on their uses.

Dressings.—For all ordinary operations the commercially sterilized gauze and cotton are entirely satisfactory. For abdominal operations the dressings should preferably be steam sterilized either in an autoclave or even in a Rochester steam sterilizer. If the latter is used, the final sterilization should be completed just before the operation. It is not possible adequately to dry dressings so sterilized, and it is better to have them warm and wet than cold and clammy. Sheets and towels can be adequately prepared by freshly laundering them and then ironing with an iron hot enough to come just short of scorching them. The time-honored custom of baking in the oven of the kitchen range is useless. Such dressings are not sterile unless so scorched as to be unfit for use. For gauze sponges, I have always found the commercially sterilized gauze safe. If sea sponges are used, they must be soaked over night in a 1:500 bichlorid or a 1:20 phenol (carbolic acid) solution. Boiling them destroys their absorptive qualities.

Basins.—Unless the physician carries his own nest of basins, he must depend on the household supply. Three at least are needed and they must be boiled. Rinsing or wiping them out with an antiseptic solution is not sufficient.

Scrubbing.—The best arrangement for scrubbing up and sterilizing the hands can be made in the bath-room. Running water and previously boiled nail-brushes are used, and to obviate stooping over, the dishes of soap, alcohol, etc., can be arranged on a bread-board placed over one end of the tub and resting on the sides of the tub.

Rubber Gloves.—Steam sterilized and, hence, dry gloves are best, but this is not always practicable. Boiling is a method always available and is satisfactory. The gloves must be boiled wrapped in gauze or a towel, and should always be boiled flat so that the water can enter them. The custom of boiling gloves rolled up in a ball is a pernicious one, as the inside of these gloves is never sterile and most of the outside is open to grave suspicion.

Sterile Water.—The night before operation a clothes-boiler is filled with water. In it are placed three pitchers and a dipper with a hooked handle. These are boiled for half an hour. The pitchers are hooked out of the water with the handle of the dipper and filled, and then towels are tied over their tops and they are set aside to cool over night. The next morning the clothes-boiler full of water and the dipper are boiled again. Thus by mixing the cold water that has stood over night with the hot water boiled just before the operation a supply ample for most operations is secured.

In emergencies, the bottled water sold at all drug-stores is adequate for the cold sterile water, except in abdominal operations. The water in the pitchers can be cooled in a reasonably short time by pouring cold water over the outside of the pitchers.

Supplies Required.—The supplies needed for an ordinary operation are as follows: six sheets; twelve towels; 8 ounces of 95 per cent. alcohol; 8 ounces tincture of green soap; 1 pound of absorbent cotton (two half-pound rolls); one 5-yard roll of sterile gauze; one 1-yard jar of iodoform gauze; one bottle of mercuric chlorid tablets; one 2-ounce bottle of pure glycerol (glycerin, as a lubricant for putting on wet gloves); two ½-pound cans of ether, unopened; three small coarse (not silk) sponges, size of orange; one 1-yard package of sterile gauze (for the etherizer, to avoid opening the larger package).

I have this list printed on cards, and one is sent to the patient's house to guard against details being forgotten.

Nurse's Kit.—I find it useful to provide the nurse who does all the preparing of houses for me with a bag equipped with what we have found needful. This bag is small and easily carried, but contains nine basins, twelve brushes, twelve pairs of rubber gloves; all the catgut used in the operation (from eight to ten boxes being carried); a Kelly pad; douche-bag; razor for shaving patients (especially in perineal operations); gown and uniform; the glass pins (3 dozen) used for protective sheets, and a roll of safety-pins.

It is perhaps unnecessary to point out that all visible disturbances caused by these preparations should be cleared away, and all soiled linen and sponges and water disposed of as soon as possible. This is particularly desirable when everything has been prepared in the patient's room. No signs should be left for the patient to see on recovery from the anesthetic.

1823 Pine Street.

Conceit.—Diagnosis: "It was pretty devised of Aesop: the fly sat upon the axle-tree of the chariot wheel, and said, 'What a dust do I raise!' So are there some vain persons that whatsoever goeth alone, or moveth upon greater means, if they have never so little hand in it, they think it is they who carry it."—Bacon. Remedy: "Nothing can be better adapted to turn man's thoughts off his own self-sufficiency than the works of Nature."—Maund, *Pub. Health Jour.*

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A CASE OF SYSTEMIC BLASTOMYCOSIS

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History.—Dr. B. H. A., aged 37, Brownwood, Tex., was admitted to the Post-Graduate Hospital, Feb. 28, 1913. Family history and personal history have no important bearing in the report, but points in past history may be mentioned. The patient suffered from "malaria" for several months when a young child, but did not remember any other illness. At the age of 18 he suffered from what was probably acute appendicitis, but was not operated on. For the past eight or ten years the patient has usually had a severe cold every winter, coughing for about a fortnight and then recovering. During the winter of 1911-1912 he coughed nearly all winter. The sputum was mucopurulent and scanty never bloody or with odor.

Present Illness.—This dated from November, 1912. The patient went from Texas to Chicago and engaged in post-graduate medical work, including necropsies and dissections. Soon after arrival in Chicago, he had a "cold" with coryza, severe cough and scanty mucopurulent sputum. The cough continued up to the time of death and was most marked at night. The sputum was tenacious, mucopurulent, odorless and never bloody until a few days before his death. Shortly after the onset of this cough the patient began to complain of pain in various joints, involving one at a time; first the right knee, then the left shoulder, then the right shoulder, lasting altogether about two months; none of the joints became red or swollen. The patient continued his medical studies. During this period he had a slight fever most of the time, rectal temperature ranging from 100 to 101 F. in the evening. While in Chicago the patient developed a pustule on the left index-finger which did not heal, and there remained a small indurated area covered with a scale or crust which spread from time to time and discharged a trifle occasionally. This area had never been painful or swollen.

Jan. 1, 1913, the patient sailed for Liverpool. During the journey he suffered from pain in the right chest on deep breathing, not very severe or sharply localized. January 8, he was suddenly seized with severe stabbing pain in the right lower chest posteriorly. Deep breathing accentuated this pain. The patient had irregular rigors and high temperature. He entered a London hospital, where a roentgenogram was taken of the chest and abdomen. In consultation with authorities in London it was decided that he was suffering from a liver abscess.

First Operation and Results.—January 15 an operation was performed. Incision was made over the ninth rib posteriorly. No pus was found with the aspirating needle in the liver or pleural cavity. The ninth rib was found to be necrotic for several inches near the point at which examination was made, and the necrotic portion was removed. The sinus has never healed, but has continued to discharge a thin yellowish or brownish fluid in small quantities (there had never been jaundice).

Following the operation, the patient had intermittent fever varying from 99 F. in the morning to 105 F. in the afternoon, with profuse sweating. This type of fever continued. The patient developed the morphin habit on account of severe pain in the right chest. Blood-count made in London was said to be negative. Several small abscesses appeared on the chest and lower extremities, cultures from which are reported to have been negative.

February 22 the patient sailed for New York, arriving on February 28, when he came immediately under my care. During the voyage he developed severe pain along the course of the right sciatic nerve and also a lumbago. This feature caused great distress at the time of his admission to the hospital. Dr. McPhee, who examined the patient at my request, reported finding irritation of the right sciatic nerve, the cause for which he could not determine. Dr. Lattin found, on lung examination, numerous coarse and fine moist râles over the left base posteriorly from the fifth rib down. About the angle of the left scapula there was bronchovesicular breathing. Percussion note was slightly impaired over this region. Breathing sounds were obscured by râles. Over the base of the right lung, below the angle of the scapula, were scattered subcrepitant râles. Under my direction systematic examination was made of the blood and of the excreta. There was no leukocytosis. Two blood-cultures gave negative results. Urine examination was negative. Sputum examination was negative for tubercle bacilli. Von Pirquet test was negative. Wassermann test was negative.

March 22 the patient complained of sudden sharp pain in the right lower chest, especially on deep breathing. This gradually subsided in a few hours. Examination at this time showed a few subcrepitant râles in the right lower axillary region. Breathing sounds were clear. The edge of the right lobe of the liver extended a little below the costal margin, but was not tender. There was marked tenderness on pressure, however, over a large part of the right lobe of the liver. The spleen was not palpable. The patient was fairly well nourished and partook of nourishment sparingly. He was irritable but fully rational during the days shortly after his admission to the hospital, but irrational, at times, later. The tongue and lips were moist and of natural color. The skin seemed ashy, and this ashiness increased as the illness progressed. There was progressive weakness and emaciation, which did not, however, become extreme. Several physicians and surgeons who were asked to see the patient in consultation did not arrive at a satisfactory diagnosis. Roentgenoscopy showed a tendency to consolidation at the bases of both lungs and a moderate degree of enlargement of the liver, marked more by arching of the diaphragm than by extension of the sharp edge of the liver below the costal border. It was my feeling that we were dealing with subphrenic abscess or with abscess of the cephalad portion of the right lobe of the liver, and that the lung consolidation represented an infection by way of lymph-vessels of the diaphragm; although some of the consultants believed the case to be one of bronchopneumonia with lung abscess, based on the physical signs and the roentgenogram, which showed that from the hilum of the lung on the right side, extending outward in the parenchyma, there was an area of diffuse inflammatory invasion.

Later Operations and Course.—On the basis of my feeling that we were dealing with subphrenic abscess or hepatic abscess, the patient was anesthetized, March 26, and an aspirating needle passed in several directions in a search for pus, including the subdiaphragmatic region and also penetrating the diaphragm to the pleural cavity; but no pus was found. The patient suffered very little from the operation.

April 12, after further consultation, it was decided to make a small incision at the lower right costal margin for the purpose of searching for an abscess which might appear on palpation of the liver. No abscess was found on palpation, and a long steel sound passed freely over the dorsum of the liver discovered no area of adhesions, excepting at the site of the London rib excision. There were extensive adhesions, however, about the gall-bladder and the lower margin of the liver to adjacent viscera. These adhesions were separated by sweeping the finger about, and the gall-bladder was felt to be distended. It was not thought best to enlarge this incision for the purpose of draining the gall-bladder at that time, as it seemed desirable to be satisfied with the results of quick exploration.

The patient suffered little from this operation and on April 19 another small incision was made and the gall-bladder drained, in the belief—based on the extensive adhesions in the vicinity—that we might have a collection of pus in the gall-bladder. The gall-bladder, however, contained nothing but a large amount of mucus colored with bile. This operation, like the others, disturbed the patient little, as it was quickly done, but it yielded no result. The patient continued to fail gradually, notwithstanding the application of various general resources for maintaining his strength. Superficial abscesses occasionally appeared on the chest and legs. These abscesses would develop quickly, without redness or induration, and with barely enough pain to attract the attention of the patient,

and when evacuated were found to contain a thin yellowish or brownish pus. There was one abscess on the forehead, at the margin of the hair.

May 4 one of the staff men, Dr. Hjelm, obtained a culture of blastomyces from a small abscess of the neck, and a pure culture having been obtained later, the case was definitely determined to be one of systemic blastomycosis. The sputum had been carefully examined, but on account of the number of cocci and bacilli (with the staphylococci predominating) it had been difficult to obtain a culture separating the blastomyces.

The diagnosis of systemic blastomycosis having been established, attention was given to the small scaly area of the left index finger, which had been considered of little consequence. Dr. Pollitzer, who examined it, decided that it was a small area of blastomycosis of the skin. The patient, on being questioned, stated that he had pricked himself at this point while dissecting in Chicago in November, 1912.

After the diagnosis was established, potassium iodid was given, but this was not borne well and was dropped, my belief being that it is efficient only when we have the skin lesions of blastomycosis, because of the selective action of the glands of the skin in excreting potassium iodid. An examination of statistics seemed to show that it had not been of value in case of systemic blastomycosis.

An intravenous injection of neosalvarsan was given twice, but to this the patient made no response of consequence. A culture of the blastomyces was being developed for the purpose of preparing a vaccine, but before we could employ this the patient died, May 11, from general exhaustion, the last record of vital signs showing a temperature of 102 degrees F., pulse 166, respiration 10.

The patient at that time had been hiccoughing at frequent intervals and tried at many times to vomit, bringing up small quantities of greenish mucus.

Post-mortem examination was not permitted.

Characteristic Blood Examination.—March 2: Leukocytes 10,500, polynuclears 79 per cent., and lymphocytes 21 per cent. The hemoglobin, which was 90 per cent. at the time of the patient's entrance to the hospital, had dropped down to 70 per cent. on April 11. Blood examinations were at all times negative.

Sputum Examination.—Various cocci and bacilli were found, staphylococci predominating.

Characteristic Urine Examination.—March: reaction, acid; color, amber; specific gravity, 1.015; albumin, none; sugar, none; calcium oxalate crystals. Characteristic urine examination in April: reaction, acid; color, orange; specific gravity, 1.020; albumin, negative; sugar, negative; amorphous urates.

Characteristic Rectal Temperature.—From the time of his entrance, February 28, until April 15: Morning temperature varied from normal to 101; evening temperature, from 104 to 105. There was occasional subnormal temperature to 97. After April 15 there was much less variation between morning temperatures, probably because of decreased strength of the patient, and the characteristic temperatures ranged between normal and 102 until May 3, after which the temperature remained not far from normal, with a tendency to become subnormal, from 97 to 98, until the time of his death.

Characteristic Pulse-Rate.—This followed the temperature in an ordinary way until April 15, ranging between 100 and 138; the respiration rate ranged from 24 to 28 during this time. After April 15 there was little change in the respiration-rate; pulse-rate varied from 100 to 128. After May 3, respiration-rate ranged from 18 to 26 and the pulse-rate from 100 to 152.

For ten hours preceding death the temperature steadily rose to 102, pulse-rate ranged from 148 to 166 and respiration remained at 10.

It is probable that systemic blastomycosis is not a particularly rare disease, but the diagnosis is not often made. The number of cases reported from Chicago means presumably that Chicago physicians make the diagnosis more readily than it is made elsewhere.

616 Madison Avenue.

NOTE ON A MOLD, COCCIDIOIDES IMMITIS, FOUND IN A CASE OF GENERALIZED INFECTION IN MAN

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A sample of pus, obtained by incision of a subcutaneous abscess in the case reported by Dr. Morris in this issue of THE JOURNAL, was sent to the laboratory for examination on April 23, 1913, Laboratory No. 8511. Microscopic examination of stained preparations of the pus was negative. Plate cultures on ascitic-fluid agar brought to development, after incubation for forty-eight hours, numerous colonies of radiating mycelial threads and a very few bacterial colonies. The appearance of the colonies suggested the possibility of oidiomycosis.

The patient was seen by us on April 25 at the invitation of, and in consultation with, Dr. B. Lattin. The clinical condition of the patient, as well as the history of the illness, was found to be quite in accord with the indication of the laboratory examination. At this time a second specimen of pus was obtained from a closed subcutaneous abscess by aspiration into a clean sterile syringe.

Microscopic examination of this pus suspended in salt solution revealed numerous doubly contoured colorless spheres, varying in diameter from 4 to 25 microns. The larger ones were distinctly granular and filled with rather faintly visible globular bodies varying from 1 micron to 5 microns in diameter. Some of the larger spheres were found ruptured with the small spheres evidently ready to escape from their interior. No budding forms or mycelial threads were recognized in the pus.

On the plate cultures of this second specimen of pus many colonies of mold developed, apparently in pure culture. Each colony consisted of a mass of radiating, interlacing, branched and septate threads, surrounding the remains of a spherical body at the center, from which the colony evidently originated.

The organism is regarded as identical with that discovered by Posada and Wernicke,[1] and first described in the United States by Rixford[2] in two cases, and subsequently studied by Rixford and Gilchrist,[3] who bestowed on it the name *Coccidioides immitis*. The work of Ophüls and Moffit[4] and of Wolbach[5] has established the classification of the parasite as a mold. The specific name *Coccidioides immitis* (Rixford and Gilchrist, 1895), should nevertheless be retained, unless a more complete knowledge of the organism shall finally determine its position in some prior genus of the fungi.

Twentieth Street and Second Avenue.

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2. Rixford, Emmet: Presentation of a Case at the San Francisco Medico-Chirurgical Society, March 5, 1894; reported in the Occidental Med. Times, May, 1894, viii, 326; A Case of Protozoic Dermatitis, ibid., December, 1894, viii, 704.
3. Rixford, Emmet, and Gilchrist, T. C.: Two Cases of Protozoon (Coccidioidal) Infection of the Skin and Other Organs, Johns Hopkins Hosp. Rep., 1896, i, 209.
4. Ophüls and Moffit, Herbert C.: A New Pathogenic Mold (formerly Described as a Protozoon, Coccidioides Immitis Pyogenes), Preliminary Report, Philadelphia Med. Jour., June 30, 1900, v, 1471.
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SOME INTRA-ABDOMINAL COMPLICATIONS FOLLOWING LAPAROTOMIES *

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Some of the questions that a patient who is suffering from abdominal disease considers before an operation is consented to are:

1. Has a proper diagnosis been made in his individual case?
2. Will the operation cure him of his trouble?
3. Will it leave him in a worse condition?
4. Will it leave a different train of symptoms with an equal amount of suffering?
5. Is the disease of such importance that he is warranted in taking the risk of an operation?

For a number of years I have been investigating the cause of postoperative intra-abdominal disturbances in my own as well as other surgeons' cases that have come to my attention, and have tried to determine the underlying factors in the production of the various symptoms that patients complain of after laparotomy.

Intra-abdominal pain is usually due to some interference with the function of the alimentary canal, and this may be because of acute or chronic inflammation of the peritoneum, which inhibits peristaltic action of the bowel, or to obstruction of a more chronic nature due to bands, kinks and flexures of the various portions of the digestive tract, producing stasis, resulting in retained food, mucus and gas.

When it is possible for the contents of the stomach to pass readily from the stomach through the pylorus, duodenum, small intestines and colon in the required amount of time for digestion, assimilation and elimination of waste products, the patient experiences no particular discomfort; but, if this period is prolonged, decomposition of semidigested food, distention from retained waste products, gas and mucus often result. The patient suffers from local pain, general disturbances and systemic intoxication.

THOROUGHNESS OF THE OPERATION

Associated lesions other than the one especially for which an operation is performed may be equally responsible for the patient's suffering. When a laparotomy is performed it is incumbent on the operator to investigate all abdominal and pelvic organs within his reach to determine if this is the case or not. According to Bottomley, "An attempt should be made to find adequate pathologic cause for the patient's symptoms."

It is essential indeed that the surgeon determine if the function of the stomach or intestines is so interfered with as to modify results. The operative technic and thoroughness of the operation have much to do with the comfort and well-being of the patient after the operation. The carefulness of the work and the method of closing the peritoneum and abdominal wall determine to a great extent whether or not the patient remains well thereafter.

PREEXISTING DERANGEMENT OF THE FUNCTIONS OF THE ALIMENTARY CANAL

In a paper read before the Western Surgical Association, April 10, 1909, on "Chronic Dilatation and Prolapse of the Stomach," I demonstrated the importance of this condition in relation to abdominal surgery I especially emphasized the fact that a stomach which is much dilated or prolapsed works less perfectly and causes much more distress following operations because of retained contents than one of the normal size and in normal position.

Recently I have had several cases in which chronic dilatation and prolapse of the stomach existed, and it was predicted at the time that these patients would have much postoperative disturbance, such as nausea, vomiting and distention. This was verified in nearly all instances. In operative cases having no enlargement or prolapse of the stomach there was less postoperative pain and often no vomiting or distention.

In persons who had previously been operated on for other troubles, with much discomfort following, and in whom there was found a badly prolapsed and dilated stomach, causing such impairment of functions that it was deemed necessary to do something specifically for this dilatation or prolapse, when the stomach was suspended in the proper position by operation little or no postoperative gastric disturbance arose.

Thorkild Rovsing has given sufficient evidence of the importance of a prolapsed stomach and colon and reports sixty-three personal cases in which operation was performed, with 50 per cent. of positive cures and 75 per cent. of cures and improvements.

If we have any adhesions around the pylorus which interfere with the normal emptying of the stomach at the proper time, there may result a distention of this organ followed by nausea, vomiting and regurgitation of bile. A distended stomach interferes with the large and small bowel action. Kinks may be produced and fecal substance and gas trapped within isolated loops. A greatly enlarged cecum with much accumulation of mucus, infectious material and gas further adds to the distention.

Intracolonic tension produces a thinned-out atonic wall which is of less protection to the outlying serosa from infection within. There is a transmigration of the infectious micro-organisms through the thin walls and local infection of the endothelium may result.

The general intra-abdominal tension forces the coils of the intestines in close contact, and in the presence of infection or any raw or denuded surfaces adhesions necessarily follow which may be temporary or permanent according to the variety of the infection, the amount of pressure and the tissue involved. The same rule as applied to joints by Murphy holds in diseases of the abdominal cavity.

MUCOUS COLITIS AND MEMBRANOUS PERICOLITIS

In cases of mucous colitis I have found that a thorough irrigation of the colon either in the knee-chest position, elevated hip position and right-sided flank position, materially lessens the intra-abdominal postoperative distress

This is especially emphasized when associated with that class of cases known as a membranous pericolitis, in which the operator has been compelled to separate bands of adhesions or liberate the transverse colon that has become fixed to the ascending colon. In such patients the postoperative management and subsequent treatment is important indeed, and determines to a great extent whether we bring about a better or worse condition of the patient.

I know of no class of cases in which the ingenuity of the operator is more put to the test than in this variety, as without question they are the large majority of cases that give the surgeon the most trouble following surgical work. They are the class in which frequently

* Read before the St. Louis County Medical Society, Duluth, Minn., June 10, 1913.

the appendix alone has been removed with little or no benefit.

Postoperative adhesions are increased rather than eliminated in such cases if incomplete surgery has been performed. If the constricting bands are not separated the colon functionates imperfectly, the kinks remain, postoperative stasis and tension become quite pronounced and the suffering severe. Retained infectious micro-organisms are forced through the thin colonic walls, often producing local peritonitis with an aggravation of the membranous pericolitis.

STATE OF THE MUSCLE TONE OF THE ABDOMINAL WALL

Persons with lax pendulous abdominal walls with little or no tone or strength to maintain the normal and proper function of the within contained intestines are liable to have inactivity of the intestines following an operation. There must be in the normal person elastic tone and tension of the abdominal muscles to facilitate the proper propelling of contents and the evacuation of waste products. If this force is wanting, the functions of the intestines and stomach are imperfect and distention, fermentation and intra-abdominal tension often result.

The strength of the abdominal muscles in suitable cases should be developed as much as possible before the operation and a substitute employed temporarily for this tone directly following the operation and further treatment continued thereafter.

CHARACTER OF INFECTION

So long as an infection of any nature remains present within the abdomen and there is a destruction of the endothelial cells, adhesions occur, and unless the operation favors the elimination of the infection or inhibits the action of the micro-organisms it is of little or no benefit.

The operator should determine the nature of the infection in the given case. If it is of a streptococci type the aim and desire should be to remove the infectious material as thoroughly as possible; then we may expect almost perfect results and few, if any, subsequent adhesions. The same may be true in an infection from colon bacilli, but in tuberculous or gonorrheal infections it is often so impossible to remove the diseased tissue and infectious micro-organisms that we must give a less favorable prognosis.

Adhesions may have been separated at the time for various reasons, such as the removal of a diseased appendix, tube or cystic ovary, but they will recur in some instances and remain until the patient either succumbs or recovers from a general infection. In gonorrhea we may have a few adhesions contiguous to the part removed, as in the stump of a tube, but by careful systematic work we are able to eliminate this possibility to a great extent by taking out the cornual portion of the uterus and carefully covering the stump with the healthier uterine tissue and peritoneum.

RAW SURFACES OR DENUDED AREAS LEFT WITHIN THE ABDOMEN AFTER OPERATION

Maurice Richardson expressed a belief that raw or denuded surfaces within the abdomen are the most frequent sources of intra-abdominal adhesions. Owing to the increased intra-abdominal tension following an operation, raw surfaces should be obviated as much as possible, and as little traumatism produced as is consistent with a thorough investigation and treatment of the affected tissue.

Every surgeon should be especially careful not to leave surfaces not enveloped with normal peritoneum exposed to contiguous coils of intestines. Exposed suture lines should be as few as possible within the abdomen.

All surgical work done on the female pelvic organs should be so carefully performed that little or no denuded or wounded serous membrane remains within the abdomen or exposed suture lines.

Tubes should be removed so completely and carefully, approximating the serous membrane above the stump and broad ligament wound with plain catgut, that there will be slight chance for loops of intestines or omentum to become fixed thereto. This same rule should apply in doing hysterectomies and in enucleating uterine fibroids, and in the removal of cysts of the ovaries or resection of them fine plain catgut alone should be used to approximate the parts, as this absorbs early. We should be especially careful if more or less infected tissue remains at or near the point of the suture line.

In stomach, intestinal and gall-bladder surgery there is more or less soiling of the serous covering, and if any exposed denuded surface remains, it should be surrounded with omental tissue when suitable and possible.

If there is an unavoidable denuded surface left, detached omental grafts are in most instances best employed. They are preferable to such material as gutta-percha, silver foil, rubber, silk, Cargile membrane, petrolatum, etc.

When an actual cautery can be employed to a raw surface, there is less likelihood of adhesions from deep cauterization, for when the scab separates there is usually a healthy membrane beneath.

REMOVAL OF APPENDIX

A number of operators are content, in ligating the stump of the appendix, to leave it exposed within the abdomen. It seems to me that this invites adhesions thereto, as we all know that the stump of an appendix has more or less infectious material within its lumen and that it must become fixed, at least temporarily, in some way or Nature must envelop this infectious material with some tissue or exudate.

I believe that there is little call for silk or Pagenstecher thread in appendiceal operations, and it may be eliminated in many other operations in which it is employed at the present day. A non-absorbable suture acts as an irritant, increasing the amount of exudate around the suture to which adhesions can and do occur. By ligating the stump of the appendix with plain catgut, cauterizing and inverting the stump, and by employing a chromic catgut purse-string suture, we accomplish all that is desired and prevent possible adhesions at this point. A number of patients have been reoperated on in which silk or Pagenstecher thread had been used, especially when used in the infected cases.

OPERATIVE TRAUMATISM

It is surprising the amount of abuse the peritoneum will endure and recover therefrom. Surgeons who operate with bare hands or wear linen gloves no doubt injure the serosa of the intestines to a great extent by nail wounds, pressure or rubbing of the linen gloves.

The amount of traumatism and areas of denudation produced by sponges and gauze packs within the abdomen is hard to estimate. The coils of the intestines are frequently caught between the folds of gauze in endeavoring to push them out of the field of operation and are so severely injured that it is no wonder that postoperative discomfort results from ileus kinks, stasis and adhe-

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sions, at least of a temporary nature, from undue pressure, traumatism and denudation of their serous covering.

Injury to the peritoneum by sharp unsuitable retractors, artery forceps and other instruments is not uncommon.

The use of a rubber dam if there is much intra-abdominal tension may, in some instances, be called for: the surgeon should at least place the patient in such a position as to have the intestines gravitate to a point away from the field of operation and carefully and systematically hold them back with moist rolls of gauze and not necessarily crowd them roughly away from the field of operation so as to produce injury of their serous covering.

All unnecessary wounds of the visceral and parietal peritoneum should be avoided, as to these areas omental adhesions are wont to occur or coils of intestines to unite.

UNDUE EXPOSURE OF THE VISCERA

Prolonged exposure of many loops of intestines without the abdominal cavity to cold air and extra abdominal pressure, as well as unclean skin and wound surfaces, is wrong. A portion of the circulation of these loops may be temporarily arrested with a thrombosis of some of the blood-vessels, all of which may invite postoperative ileus, intra-abdominal tension, infected peritonitis, obstruction and adhesions.

FOREIGN SUBSTANCES

Inadvertently leaving gauze or instruments in the abdomen are unfortunate accidents and are not infrequent sources of postoperative discomfort and pronounced adhesions.

As soon as the abdomen is opened only large pads should be used to sponge out the abdomen and large three-yard-long wet rollers of gauze used to coffer-dam the field of operation. By this plan I am sure fewer of these accidents will occur.

DRAINAGE

The subject of drainage is a large one, on which a great deal of discussion has taken place. I long ago formulated a few simple rules which have not varied much in years. If there is a great deal of bloody exudate in an operative field within the abdomen, rubber-tube drainage with fixed or collapsible walls is utilized only so long as there remains an undue amount of discharge, usually for about forty-eight hours, when drainage is removed. Blood makes a suitable medium in which infectious micro-organisms develop. An increased amount of retained blood results in an increased area of infection or organized exudate and adhesions. The early removal of this exudate lessens the area involved and the number of adhesions following.

Septic areas are drained likewise, but for a longer time, until a channel has formed through which this exudate or infectious material may escape. Gauze drainage is seldom if ever indicated, as it drains only for a short time and becomes glued to contiguous tissues, and this gauze, on removal, separates the endothelium from the intestines or inner surface of the abdominal wall, leaving denuded areas which favor further infection and adhesions.

Drainage is established so as best to favor the exit of the discharge and no undue pressure is allowed on the abdominal viscera by drainage material, the patient being placed in a position most favorable for drainage, often laying over on the abdomen.

CLOSURE OF THE PERITONEUM AND ABDOMINAL WALL

From secondary operations performed on cases previously subjected to laparotomies, we are convinced that the adhesions of the omentum and intestine to the suture line utilized for closing the peritoneal opening are far too frequent. Patients suffer so often with a dragging or pulling sensation at this point with such tension on the transverse colon and stomach that there is an interference with their normal function. Cramp-like pains, nausea, vomiting and stagnant stomach and bowel contents frequently occur, due to a kinking of the pylorus or colon on account of this pull. Surgeons have been generally satisfied to stitch up the peritoneum with an over-and-over running suture of catgut, and have allowed this to suffice even though there may be quite large holes left in the peritoneum through which the omentum may protrude or become attached to the tissue outside of these openings.

Operators often overlook the presence of the fascia layer back of the recti in closing median incisions. This tissue is often allowed to retract and is not brought to the median line with the peritoneum. The peritoneum alone is so thin in many instances that it will scarcely hold the suture when any tension is put on it. This tissue should be included with the peritoneal suture and will lend material support thereto and often prevent postoperative hernia. It is important that the needle does not penetrate the visceral peritoneum or omentum, as temporary or permanent fixation of the tissues so caught may result and much discomfort, or even obstruction of the bowel, occur.

I have also endeavored to pass the suture in such a manner as to have the healthy serous membrane in close apposition to the opposite side by passing the suture back and forth; this is a running Halstead suture according to the Murphy method. This plan gives a less suture-surface exposure and minimizes the raw places within the abdomen.

Direct muscle and fascial approximation are important in closing the abdomen. A running stitch of chromic catgut, including the fascia and muscle, alternately with a stitch including fascia alone, makes a careful approximation. I have followed this method for a number of years and have had very satisfactory results where drainage due to abscess was not necessarily established. Postoperative hernia is so often followed by impaired bowel function and by adhesions with so much suffering that it should never occur in clean cases.

POSTOPERATIVE MANAGEMENT OF THE CASE

If intra-abdominal tension is one of the factors in the production of postoperative distress and danger, we should consider all elements in the production of this tension and prevent or eliminate them early. First and most important is acute gastric dilatation. In such cases the stomach-tube should be used as soon as much gastric distention is recognized and before any amount of distress has been experienced, especially in cases in which a chronically enlarged or prolapsed stomach has been observed.

This procedure will prevent many cases of so-called postoperative peritonitis and heart weakness. It will save many lives and go a long way toward preventing the adhesions which follow in the wake of operations.

Surgeons are more neglectful of the kind and amount of food and drink that their patients receive after operations than they should be. Few patients with stomach disturbances can stand the carbohydrates; these often

cause distress and distention. Such patients do not endure cold drinks well. Hot alkaline aqueous solutions and hot liquid food are best tolerated to begin with. A rise of temperature, pain, distention and a blocking of the drainage-canals follow in too early and forced feeding. Pus is forced into other abdominal recesses with enlarged patches of peritonitis and adhesions.

The position of the patient should also be considered if there has been a considerable amount of pelvic work done not requiring drainage, and especially if there is a prolapsed stomach elevating the foot of the bed will assist restoration of position and function of the stomach and intestines, often avoiding the possibility of adhesions within the pelvis. Hepatic and splenic kinks of the colon may be overcome at times by this procedure. Many cases should be observed for weeks and months after operation, especially cases of visceroptosis and membranous pericolitis associated with colitis, as by selecting the diet for the patient and insisting on proper exercise and support for maintaining the tone of the abdominal muscles and a suitable course of treatment to overcome the colitis, symptoms formerly the outgrowth of this disease will, as a rule, be permanently removed.

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ERYSIPELAS

CLINICAL OBSERVATIONS ON 800 CASES, INCLUDING 95 TREATED BY BACTERIAL VACCINE AND 20 TREATED BY PHYLACOGEN

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The observations which follow are drawn from my experience with 800 cases of erysipelas which have been under my care in the erysipelas wards of Bellevue Hospital during seven periods of service from February, 1909, to April, 1913, an aggregate of forty-two weeks.

DURATION

So many claims have been advanced for the efficacy of various forms of treatment in limiting the duration or extent of this disease, that I have had especially in mind to determine the average febrile period of various forms of erysipelas (drawn from a large series of cases practically untreated), in order that there might be a background on which the effects of treatment might be contrasted. In reckoning the febrile period, I have counted the days from the onset of the disease until the rectal temperature has remained at or below 100.

1. Uncomplicated facial erysipelas cases (500) ran an average duration of 6.77 days.

2. General body and migratory cases (fifty-six) averaged 14.44 days.

3. Leg cases (thirty-three) averaged in days, 10.88.

4. Complicated cases (211), including facial, body and extremity types of cases in which there was concurrent disease, that is, septicemia, extensive cellulitis, mastoiditis, empyema, tuberculosis, rheumatism, pneumonia, acute alcoholism, etc., were so variously influenced by the complication that an average duration loses significance. But in these cases the average duration is about two weeks

From year to year there was some variation in duration. That is, in 1910 and 1911, the average in days for facial cases was 7.3, whereas in 1913 it was but 6.3. In making up these averages there were numerous cases which lasted only two, three or four days, as well as a number which lasted ten, twelve or rarely twenty days.

FEVER

The temperature in the facial cases usually was high, that is, from 102 to 104, was remarkably remittent and irregular in type in the majority of cases and the termination was by lysis. The temperature curve in quite a number of them resembled that of lobar pneumonia, rising abruptly to 104 or 105, and there remaining for from five to seven days and falling suddenly as the disease defervesced by a typical crisis. Afebrile cases are rare but I have records of eight such cases of typical facial erysipelas, or 1 per cent. of the series.

OCCURRENCE

Sex.—In our cases at Bellevue among adults, males were affected more often than females in the ratio of 2:1, due, undoubtedly, to their greater exposure to inclement weather, their greater liability to face and scalp wounds, their addiction to alcohol and to less cleanly habits.

Season.—Numerically, erysipelas is a disease of the colder and spring months, for in contrasting my periods of service in February and March with those of August and September, the former showed two and one-half times as many cases as the latter; especially was this true of the facial type of cases which were thrice as numerous in the colder months. The prevalence of colds in the head with abrasion of the nasal mucous membrane often affords a point of entry for the infection.

Age.—Infants (under 2 years of age), sixty-three cases, approximately, 8 per cent. Children from 2 to 16 years, approximately, 1 per cent. Adults from 20 to 55 years, approximately, 88 per cent.

ETIOLOGY

The point of entrance of the infection in facial type of cases, which number nearly seven-eighths of all, was through the nasal mucosa in the great majority, who gave a history of a preceding coryza. In others there were abrasions or wounds of the face or scalp, from operations on the nose, from operations for mastoid disease, from eczema of the scalp in infants, etc.

The cases in which there was a wide-spread body involvement either were migratory from the face or extremities or, as was common in infants, began with an infection of the umbilicus, an irritation of the buttocks and vulva or originated about operative wounds of the chest or abdomen. Leg ulcers and wounds accounted for the cases which developed on the extremities.

ONSET AND COURSE

Chills, general malaise, headache and rise of temperature generally ushered in an attack, and preceded the appearance of the local lesion by from twelve to twenty-four hours; although in many cases the pain, burning and redness of the skin were the first symptoms noted by the patient. Vomiting had occurred in only a few of our cases.

The febrile movement and the duration in the average cases has already been mentioned. Typical facial erysipelas which starts at the bridge of the nose and spreads in butterfly pattern rather symmetrically over the cheeks, may remain thus limited, but in many cases it proceeds to involve the ears, the forehead, the scalp and the neck, down to but not beyond the collar-line, except in the

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small percentage of cases which are of the migratory type. The characteristic appearance of the lesion, the early bleb-formation and the succeeding desquamation, I shall not attempt to describe.

Erysipelas, which starts on the face or trunk and spreads to the extremities, usually travels down both arms or legs with remarkable symmetry from day to day. Naturally, erysipelas which begins low on an extremity travels upward toward the trunk, the only direction in which it may extend, but I do not believe that this is at all influenced by the lymphatic flow, for I believe that one of the most important points about erysipelas is that it spreads as easily in directions counter to the lymphatic current as with it and that this fact is valuable in differentiating it from the redness of a cellulitis or lymphangitis. The advancing border, too, is usually irregular, with tongue-like projections.

SEQUELAE AND COMPLICATIONS

Superficial abscesses in the eyelids are very frequent and often there are collections of pus deeper in the cellular tissues of the areas over which the erysipelas has traveled. In other cases septicemia develops with the formation of metastatic abscesses.

Pneumonia is a frequent concomitant, especially in the winter season and among those addicted to alcohol. Nephritis, as shown by albumin and casts, was often a feature of cases in which high temperature was present, but the three deaths due to nephritis were in cases in which nephritis already was chronic.

RELAPSE AND RECURRENCE

Both are notoriously common in this disease and it would seem that, as in pneumonia, the result of the infection was to lower resistance, rather than to confer a lasting immunity. More than 10 per cent. of our cases gave a history of one or more previous attacks and I feel sure that more careful histories would show a much larger number of such patients. Several patients had had as many as six previous attacks.

CONTAGION

Is erysipelas an easily communicable disease? In my opinion and experience, it would seem to be not more so than streptococcus and staphylococcus wound infections, cellulitis, abscesses, etc. Undoubtedly erysipelas is inoculable from one part of the body to another and from one patient to another, given a point of entry, but with modern aseptic precautions this should occur no more often than does the infection of a clean wound from a suppurating wound in the next bed in a surgical ward.

My reasons for this opinion are as follows: In our 800 cases there were only four which suggested contagion; in one, a male nurse, who had worked for several months in a ward with twenty erysipelas patients contracted facial erysipelas after a cold in the head. The other three developed before entrance to the hospital and were in children; one nursing infant contracted erysipelas from its mother; the remaining two were in children under 4 years of age whose mothers were coincidently affected.

It is significant that no more than three cases of family contagion occurred in a series of 800, drawn largely from crowded tenement conditions of life; especially when one considers that very many of the patients remained in their homes during three to five days of the disease without any isolation, and also that many returned to their homes while desquamation was still in progress.

Mothers frequently continue to nurse their infants in our wards while the infants are passing through an attack of erysipelas, and yet no mothers have contracted the disease. No cases of erysipelas developed in our wards among the very numerous cases of cellulitis and lymphangitis which were admitted under erroneous diagnoses. No cases developed among any of the visitors, nurses or doctors with the exception of the case previously mentioned.

MORTALITY

In the series of 800 cases there were ninety-three deaths, or 11.625 per cent. The distribution according to sex and age was as follows:

Adult males, 480 cases with 49 deaths or 10.21 per cent.
Adult females, 257 cases with 19 deaths or 7.4 per cent.
Infants (under 2 years), 63 cases with 25 deaths or 39.7 per cent.

According to the lesion the mortality varied as follows:

Facial cases, 500 with 27 deaths or 5.38 per cent.
Body cases, 56 with 28 deaths or 50.0 per cent.
Leg cases, 33 with 9 deaths or 27.3 per cent.
Complicated cases, 211 with 29 deaths or 13.7 per cent.

The type of the disease usual among infants is of the migratory or general body form and hence the mortality is highest among them. As to the facial type of cases it is noteworthy that in the 173 cases in adult women there were but three deaths, or 1.73 per cent. Addiction to alcohol, so common among adult males, accounts in part for the great discrepancy, between the sexes, as it predisposes to acute alcoholism and pneumonia as well as intensifies the toxemia of the disease.

The causes of the ninety-three deaths so far as they may be clinically differentiated, seem to fall under the headings which follow, although the alcoholism and toxemia cases were often combined.

Toxemia of erysipelas	36
Septicemia	19
Pneumonia	16
Nephritis	3
Endocarditis	3
Acute alcoholism	16

DIAGNOSIS

The diagnosis of typical facial erysipelas is usually easily made from the characteristic skin appearance, the fever, the bleb-formation and the desquamation, but even here cases are frequently sent in as those of erysipelas when there is merely an area of inflammation about an infected scalp or forehead wound. Erysipelas of the legs or arms or body, unless it be in cases which have extended from the head, presents much more difficulty in diagnosis and I believe that it is often impossible to differentiate cases of erysipelas in the leg from cases of cellulitis or lymphangitis.

Certainly in my experience, about half of all the so-called cases in the leg which were admitted to the erysipelas ward were cases of cellulitis pure and simple, and were at once cleared up either by wet dressings or on giving exit to the pent-up pus, and yet these very cases may have been pronounced erysipelas by competent surgeons and had been transferred on account of such a diagnosis from surgical wards in various hospitals of this city. A visit to the erysipelas wards during August and September when, as has been said, cases of the facial type are much less numerous, rather gives the impression that the wards are those in which patients with cellulitis of the legs and suppurating wounds are being treated.

The great difficulty in making a diagnosis when erysipelas starts on the extremities or the trunk lies in the fact that, in these cases, the advancing border is usually less well defined and elevated than in the facial type of cases, perhaps from the presence of a larger quantity of subcutaneous areolar tissue, which is able to accommodate the thickened deeper layers of the skin, without causing marked elevation of the margin.

TREATMENT

Internal Medication.—The administration of iron and of quinin has been long recommended for erysipelas and we have used these remedies in many cases without seeing any striking beneficial results. In fact the iron often deranges the already enfeebled digestion. For this reason in most of our cases no internal medication was prescribed aside from sedatives, stimulants and cathartics as might be needed.

Local.—The routine treatment for cases of facial erysipelas in our wards consists in the use of continually wet cold compresses. Beside each bed is a bowl of boric-acid solution in which ice is placed and cloths frequently moistened with the solution are continuously kept on the face. This method is simple, cleanly, harmless to the eyes, inexpensive and seems effectually to relieve the pain and burning in the affected area. For cases in which the leg or arm is involved, wet dressings of boric acid or aluminum acetate are used.

The use of local applications in migratory cases in which there is involvement of the body is more difficult and indeed wet dressings would both be uncomfortable and, in the cold months, might predispose to pneumonia; usually no attempt is made to cover these areas, but occasionally ichthyol is applied or the areas are painted with picric-acid solution.

The use of solutions of phenol (carbolic acid), mercuric chlorid, etc., is dangerous and does not limit the spread of the lesion and accomplishes no more than plain water or boric acid. We have painted the area and circumscribed it with pure phenol, with strong tincture of iodin, with ichthyol, with collodion and with picric acid, only to behold the erysipelas spread readily and rapidly beyond these barriers, unless the case were itself a very circumscribed one, as is often encountered on the face or neck. Phenol, 1:40, we have injected into and under the skin at a distance from the advancing margin, but in each case the disease advanced beyond this line at one or more points, and in one case there resulted a very ugly slough of the skin at the site of the injection. Ichthyol, which is the most widely used local application, does not give the patient as much relief as cold compresses and besides it is dirty and not curative.

VACCINE TREATMENT

Through the kindness of Dr. T. W. Hastings and Dr. Elser of the Cornell University Medical College Laboratory, and of Drs. Youland and Boehm of the Bellevue Hospital Laboratory, who prepared vaccine for us, we were enabled to use vaccines in ninety-five cases out of the eight hundred.

Mortality.—Of the ninety-five vaccine cases, sixty-four were, on admission, of an uncomplicated facial type and there were four deaths; thirty-one were of the leg or body type and showed seven deaths; a mortality of 11.5 per cent. in the ninety-five vaccine cases as against 11.625 per cent. in the whole series of eight hundred cases.

Duration.—The average febrile period in the sixty-four vaccine cases of the facial type was 7.8 days; the average in days of the thirty-one cases of the body and leg type was 15.4 days. Both these figures are slightly larger than in the whole series of eight hundred cases, as before noted.

Immunity.—Four patients had recurrent attacks of erysipelas within from two to ten days after the attack during which they had been given from five to seven increasing doses of vaccine.

Limitation of Lesion.—In cases in which there was localized facial erysipelas on admission, in which vaccine treatment was then instituted, at least seven developed the migratory form of the disease which spread down over the body.

Effect on Symptoms.—No constant or significant effects were to be noticed either in the temperature curve or in the symptoms of the disease after these injections, and such irregularities as occurred on the charts were to be found on many charts of untreated cases which were in the wards at the same time.

Complications.—Cellulitis and abscesses occurred in some of the vaccine cases as in those not so treated.

Preparations and Dosage of Vaccines Used.—In 1909 stock erysipelas vaccines prepared by Drs. Hastings and Elser from a virulent case, were used as follows:

Dr. Hastings' vaccine at intervals of two and three days, in doses ranging from a minimum initial dose of 15 millions up to a maximum final dose of 300 millions. One facial case, after receiving on the fourth, fifth, sixth, seventh and eighth days, respectively, 30, 60, 90, 225 and 300 millions, had an immediate relapse and ran a total fever duration of fourteen days. Dr. Elser's vaccine was given daily in constant dosage of only 6 millions.

In 1910 we used a stock vaccine from a virulent case, in daily doses of 10, 20, 40 millions, thereafter continuing at 40 millions.

In 1911 Dr. Boehm prepared a polyvalent vaccine of a number of strains of streptococci from cases of erysipelas which was given in daily increasing doses; thus 10, 20, 30, 50, 80 millions, rarely exceeding 50 millions.

In 1912 Dr. Youland made up a similar polyvalent vaccine from ten different strains of erysipelas streptococci. This was given in daily doses, beginning with 5 10, 20, 30, 50, 80 millions, rarely exceeding 50 millions. Also a few patients were given one single dose of 100 millions of this vaccine.

PHYLACOGEN TREATMENT

In February and March of 1913, Parke, Davis & Co. volunteered, through their representative, Dr. Waldecker, to supply us with their Erysipelas Phylacogen for trial in a series of cases. Their representative personally superintended the selection of cases, and the administration of the Phylacogen. As the Phylacogen was used only in one season and not over a period of years we must contrast it with the statistics of all cases in the wards at the same time.

Mortality.—We had a total of one hundred eighty cases of erysipelas with nineteen deaths, or 10.6 per cent. The twenty Phylacogen cases showed two deaths, or 10 per cent. Of the Phylacogen cases sixteen were of the facial type, the treatment usually being instituted on the second, third or fourth day.

Duration.—The average febrile duration was 6.5 days, whereas in the same period there were 115 facial cases not treated, which showed an average duration of 6.3 days. The four Phylacogen cases of the body type had a duration of 15.75 days, against an average of 13.4 days in the remaining 17 cases not so treated.

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That neither immunity nor limitation of the disease were afforded in the Phylacogen cases is instanced by the following:

One man, C. B., during his first attack of facial erysipelas received three injections of, respectively, 2, 4 and 6 c.c. of Phylacogen and was readmitted a few days later with a recurrent attack.

A strong laboring man of alcoholic habit received on the third, fourth, sixth, tenth and nineteenth days of the disease, respectively, 3, 7, 10, 10, 10 c.c., but the disease, at first limited to the face, later spread over the whole body and extremities, with pus formation about the elbow, and death resulted on the twenty-second day.

Effects.—After administration of the Phylacogen I could see no constant influence on the temperature. In some cases there was an immediate rise, followed next day by a fall; in others the temperature rose and remained higher; in still others there was no change. In a number of cases the area of injection was very painful and complaint of it was made by the patients.

Inquiries made as to the subjective symptoms showed that a few of the patients felt chilly after the injection, but as concerned relief of pain or discomfort I could elicit no difference between those treated by Phylacogen and those not so treated.

Administration.—The injections of Phylacogen were made subcutaneously on successive days, beginning with 2 c.c. and increasing 2 c.c. daily up to but not exceeding 10 c.c., which last dose might be repeated. Just what is represented by this dosage I do not know, for I was not informed.

CONCLUSIONS

1. Facial erysipelas is a self-limited disease with an average febrile course of less than seven days; therefore any remedy employed must have an immediate effect if it is to influence the course of this form of erysipelas, as many cases do not come under observation until the third or fourth day.

2. Vaccine treatment, as administered in the preceding series of ninety-five cases, will naturally be open to much criticism by enthusiasts in vaccine therapy, and it may be said by one or another that the preparation or the dosage, or the intervals were incorrectly planned and administered. In answer, I can do no more than submit the results as seen in the ninety-five vaccine cases in the series of eight hundred cases and refer again to the fact that different preparations, doses and intervals were to some extent tried out. The difficulty of obtaining cultures and preparing autogenous vaccines and the short duration of the average case, render this form of vaccine very difficult to employ.

From our experience with vaccines in erysipelas I must state that the duration of the disease was not at all lessened, the mortality remained at the same level, and there was no immunity guaranteed against recurrence, against spreading of the lesion, nor were complications, such as cellulitis and abscesses, prevented; from the statements furnished by the patients, moreover, I could not gather that there was any amelioration of the subjective symptoms.

3. By inference from the series of twenty cases treated with Phylacogen, the same conclusions must be drawn. The average duration was as usual, the mortality practically the same, relapses and recurrences also occurred and pus-formation and spreading of the disease occurred in the usual proportion of cases.

115 East Eightieth Street.

TUBERCULOSIS OF THE GENITAL ORGANS IN CHILDREN *

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We understand by this title the localization of tuberculosis in the prostate, seminal vesicles, epididymis or testicles. The results of a large series of necropsies by a number of observers show that in children tuberculosis is present in a large percentage of cases. During the first four months it is rare, but it increases rapidly as age advances. In almost every case in which it is found post mortem in the first six months of life, it is thought to be the cause of death, while in older children it is frequently found at necropsy when they have died from other causes. Even in children, tuberculous lesions of the genital organs are no longer museum curiosities, and should receive careful consideration in the classification of diseases that are known to affect these structures.

As a result of the advance in pathologic, histologic and bacteriologic investigation we are able to demonstrate that such cases are to be found and have no restriction as to months or years of life. The frequency, however, with which tuberculous disease of the genital organs occurs in children is still a disputed question.

Hutinel and Deschamps assert that it is as common in infants as in males after puberty. Broca found forty-four in 46,000 cases examined in hospital patients. Jullian found seventeen cases in 5,566 patients in private practice. It would, therefore, seem to be most frequent in private practice.

Tuberculous disease of the testes has been observed at all ages. Dreschfild reports a congenital case; Ashy one at 7 weeks, and Jullian one at 1 month. Bacillary localization in a child is rare, due no doubt to the fact that the testes in children are latent organs, having a scant blood-supply and not so predisposed to blood infection.

According to our theory of tuberculosis of the male genital organs, it is much more common after than before puberty, for it is a well-known fact that tuberculosis is more likely to affect parts in which growth and physiologic functions are most active, as for instance the long bones in children. If the internal secretion of the male genital organs is of any importance in the development of the child, there is no evidence of this activity in the histologic examination of the glands until the age of puberty is reached and the organ prepares itself for its active sexual life. Clinically, the more frequent occurrence of genital tuberculosis between the ages of 20 and 40 would seem to substantiate this theory, for at this period the physiologic activity of the generative organs is at its height.

These organs also at this time of life are more predisposed to injury and infections which so frequently precede tuberculosis in these regions. In ninety-three cases involving the testes in children reported by a number of authors, forty-four were under 2 and forty-seven over 12 years of age; that is to say, about half of the cases occur in the first period of childhood.

Generally it is localized in one testicle; however it often affects both. In the first period of childhood it occurs nearly as often on one side as the other, but after the age of 12 it occurs more frequently on the left side. This is thought to be due to disturbed circulation during walk-

* Read in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

ing. In my two cases, the disease was on the left side. There was no history of traumatism, but in both cases a family history of tuberculosis, and whether or not we are justified in attributing the more frequent occurrence on the left side to some difference in the return of the venous blood-supply, the same as the frequency of varicocele on the left side, remains to be proved.

Tuberculosis of the undescended testicle in infants is very rare. Reference is frequently made, however, to ectopic testes as being predisposed to tuberculosis, yet I know of no undoubted case reported. This may be due to the fact that most all undescended testes are atrophied and the physiologic activity, while present, is very slight.

Just what condition predisposes the male genital organs to tuberculosis is at present imperfectly understood. The observations of different clinicians present no uniform views, and many times they are diametrically opposite. The fact that the disease has become generalized when studied in the post-mortem room is no valid argument for such cases as come to the surgeon presenting local areas of tuberculosis in the generative organs. It is only fair to presume that it may be disseminated from this local area the same as from other organs of the body if this source of infection is not removed.

Personally, I believe that in some cases the male generative organs are the seat of primary tuberculosis. Such cases are, of course, few compared with secondary tuberculosis complicating tuberculous affections of other organs of the body. If the tubercle bacilli enter the circulation they find in the tortuous blood-vessels of the complicated genital tract a favorable condition for their mural implantation, growth and reproduction. The frequent localization in the epididymis may be due to the fact that the spermatic artery divides when it reaches this organ, and the vessels of the epididymis are smaller and more tortuous than those of the testicle and vas proper, the blood-current therefore being slower, which with inherited taint would favor the deposition, growth and reproduction of tubercle bacilli floating in the general circulation.

It has been established by Orth and others that tubercle bacilli can easily penetrate the mucous membrane without leaving any trace. R. C. Rosenberger has demonstrated bacilli in the blood and believes that they appear in this medium at a very early period. In the intestines they insinuate themselves between the epithelial cells like the chyle and are carried to any part of the body or fall a prey to the polymuclear leukocytes. This absorption from the mucous membrane of the intestine undoubtedly plays an important part in tuberculous infection in the child.

My investigations have led me to believe that primary tuberculosis of the prostate and seminal vesicles in children is rare. It is usually considered to be secondary to lesions in the kidney or epididymis. Although there are apparently a few exceptions, I can best illustrate this by a specific instance:

CASE 1.—Boy, aged 20 months, was brought to the office June 6, 1904, for circumcision. The mother stated that she had had considerable trouble keeping the baby dry for the last four or five months. Some time before the baby had been fretful, did not nurse, slept little and weighed 3 pounds less than when 17 months old. The child had never been considered healthy. The mother was tuberculous. Examination of patient showed a thin, poorly nourished child. There was considerable excoriation of the skin over the scrotum and inner side of thigh and a long redundant prepuce that could be easily retracted. The meatus was edematous and almost white. During the examination the child passed urine which seemed to be loaded with phosphates. Some of this deposit was collected from the napkin and examined microscopically and found to contain pus. No enlargement of the lymph-nodes could be found. Liver and spleen were enlarged, kidneys could not be palpated. Temperature 100.

A urinary examination was made, June 7, and found to contain pus, blood and tubercle bacilli. The same day the child was catheterized and a guinea-pig inoculated, which was found to be tuberculous five weeks afterward. On rectal examination a large, hard, lumpy mass was found in the region of the prostate and vesicles on the left side. It was difficult to say whether or not this condition extended over to the right side.

On July 11, when the guinea-pig was posted and a definite diagnosis of urinary tuberculosis was made, the child was put on supportive treatment, but the symptoms gradually became exaggerated and the patient died September 25, 1904.

Owing to the objections of the mother I was able to make only a partial necropsy. The chest cavity was found normal. The abdominal cavity and mesenteric lymph-nodes were enlarged, soft and caseous; the liver and spleen enlarged and contained many small nodules on the surface; kidneys normal.

On opening the pelvic cavity and dissecting up the bladder I found a large mass on the left side in the region of the vesicles, which on careful dissection was found to contain the vesicle and ampulla. On section it was found to be filled with caseous nodules and abscess cavities. Bladder negative.

Microscopic examination of this mass, section of liver and spleen, was made by the late Dr. Wilder, and the diagnosis returned to me was tuberculosis. The kidney was found normal.

Judging from this case one would feel that the anatomic evolution of seminal tuberculosis in a child is about the same as that noted in the adult. The only difference is that the Koch bacilli seem to develop more rapidly in an undeveloped organ which, having a feeble blood-supply, cannot resist the infection. Also combative phagocytic power of the cells is less pronounced than after growth has been attained.

As a child cannot interpret its symptoms, rectal examination is necessary for a satisfactory knowledge of the existing condition in the vesicle. The base of the bladder and prostate are easily outlined and any change in form and consistency is readily made out. The source of tuberculous infection is of course the tubercle bacilli, from the tuberculous man or animal.

There are five theories as to the portals of entry into the body: (1) that tuberculosis is always intra-uterine in origin, due to placental infection; (2) that infection takes place from the inhalation of dried tuberculous sputum or fine, moist droplets expelled by coughing; (3) that the source of infection is through the gastro-intestinal tract; (4) that the source of infection is through the urethra, and (5) that infection occurs by metastasis.

As to the first or congenital theory, in the investigation of any case of tuberculosis in a child, the family history is important regarding tuberculosis as well as the history of definite exposure to infection. It is the custom in some places to ridicule the idea of heredity predisposing the offspring to tuberculosis, even if this transmission of the disease from parent to child is not admitted. Certainly it may be said that the child of tuberculous parents will have a predisposition to the disease.

It is quite true that these children may be infected from some other person who has consumption, or through the medium of milk, but this will not explain the cases found in the first few days of life. If there has been tuberculosis in the parents, then the child in

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adverse circumstances will almost certainly be more liable to contract the disease on exposure to infection than a child whose family history is not marred by the presence of tuberculosis. In other words, if two children of the same age were taken, one with a family history of tuberculosis, the other with no such history, and if these children living under the same environments became exposed, most certainly the child with a tuberculous taint would be the first to contract the disease.

The frequent localization of the tuberculous lesions among children in parts of the body not readily exposed to external infection must be regarded as congenital. Proof of metastatic infection through the blood may be made by microscopic examination, which would show an obliterated blood-vessel in the center of the tuberculous focus. Such pathologic examinations of the lesion may explain the cause of some localized foci of tuberculosis, but we would have a comfortable number of lesions left in which we could not explain the origin.

It is probable that the most common portals of entry are the nasopharynx, tonsils, lungs and intestines, for corresponding to these portals of entry we find primary infection of the cervical, bronchial, and mesenteric lymph-nodes. In many instances these lymph-nodes are primarily effected, the genital lesion being secondary. The difficulty is as to how the infection is to be diagnosed, as in many cases in which the bronchial and mesenteric lymph-nodes are involved the diagnosis would be purely hypothetical. It is a well-known fact that tuberculosis of childhood is essentially a disease of the lymph-vessels, usually represented by a chronic adenitis, and were it not for the fact that Nature has provided the infant with a lymph system of wonderful defensive power, they would all contract tuberculosis, for the infant is more exposed to house infection than any other member of the family—from kisses of a tuberculous person, dirty handkerchiefs and contaminated objects which they carry to their mouths, such as dirt under the finger-nails, which frequently contain tubercle bacilli. All these factors favor the introduction of germs into the digestive tract. The frequency with which the mesenteric lymph-nodes are found involved in infants rather favors the intestine as a more frequent portal of entry.

The entrance of the tubercle bacilli through the urethra must be very rare. It is asserted by some writers that the tubercle bacilli, being devoid of motion, must rely on the circulating currents for its transportation; besides, they are unable to develop in the secretions and are therefore powerless to resist the secretory currents. Nevertheless, urologists are all familiar with the clinical fact that foreign bodies when introduced into the urethra have a tendency to be carried by the mucous currents in the direction of the bladder, and it is reasonable to assume that micro-organisms lodged in the meatus are conveyed in a similar manner along the urethral tract, but unless they become arrested on a soil favorable for their growth they produce no symptoms. But should primary tuberculosis of the urethral tract take place, it would do so only at a point where the mucous membrane has been prepared for their reception by some antecedent injury or disease.

The fact is, the history of tuberculosis in childhood is against any one exclusive portal of entry; but if one clinical fact is as good as another, it is evident that there are several points through which the invasion may take place, and also that when once implanted in the genital tract, advance may be made in more than one direction.

The onset of the disease may be sudden or gradual, and varies with the presence or absence of mixed infection. The truth may be that primary tuberculosis confined to the genital organs of children causes no symptoms, and these children are seldom seen by the doctor for this condition.

The second case I wish to report falls into this class:

CASE 2.—Boy, aged 7 months, seen Sept. 3, 1908. About three or four weeks before, the mother first noticed swelling in the left side of the scrotum. This had gradually increased in size but had caused no pain or other symptoms referable to it. The mother had come to Colorado for tuberculosis three years before. There were no other points of interest.

Examination.—General nourishment good. Scrotum presented on left side an ovoid mass about the size of a walnut; several nodules could be felt along the outer side of the mass. On the inner side, high up, a soft mass appeared, surrounded by a hard, fibrous ring. This was thought to be the testicle proper. The spermatic cord was apparently not involved. Rectal examination showed the prostate and seminal vesicles to be normal, as was the opposite testicle. Diagnosis of tuberculosis of the epididymis was made and operation advised, but was refused by parents. The child was seen at odd times until Nov. 25, 1908, when there appeared a softened area in the lower part of the mass. No other changes could be noted. After some time I gained permission of the parents to open this soft area. A considerable amount of thick, caseous material was found. This was diluted with distilled sterile water and guinea-pigs inoculated, which proved positive to tuberculosis when killed in five weeks. Guinea-pigs inoculated with urine at same time were negative. The cavity was packed with iodoform gauze a few times and then let alone, owing to the difficulty of keeping dressings in place. The mass gradually diminished in size, however, the fistula remained open for some months. When the patient was last seen, March 28, 1913, he was in perfect health, the only evidence of his testicular trouble being a rather thick fibrous cord running from the site of incision in the skin to the globus minor.

Tuberculosis of the genital organs is more frequently found in the post-mortem room in children who have died of other diseases. The gradual onset is much more common, as the disease develops painlessly and insidiously. Attention of the mother is usually first attracted by the presence of a swelling of the testicle. This may be first noticed when a complicating hydrocele develops, as this rather sudden accumulation of fluid would more likely attract the mother's attention. Hydrocele is rarely large when due to tuberculosis in the epididymis, and there is very little difficulty in making a diagnosis. In some cases, however, the child is not brought for treatment until caseation has taken place, and attention is first drawn to a discoloration on the scrotum, the swelling being only slightly tender. The following case will illustrate this point:

CASE 3.—In A. J. S., aged 16 months, seen March 20, 1908. Swelling and hardness of the scrotum were noticed two or three months before. A physician was consulted, who advised hot applications.

A few days ago the mother noticed that the swelling was rapidly increasing in size and I was asked to see the case.

The mother's father and one brother had died of tuberculosis. The mother had been sent to Colorado for suspected tuberculosis. The general health of the child had been good; it never had been sick before and there was no history of injury.

Examination.—Left scrotum very large, owing to complicating hydrocele. An apparently somewhat enlarged mass was found below and behind the fluid sac. Rectal examination was negative, also the right testicle and epididymis. March 22 the hydrocele was tapped and 40 c.c. of a clear straw-

colored fluid removed. This fluid was not examined. After removing the hydrocele fluid it was possible to make out a hard indurated epididymis. The testicle did not seem to be involved, as it was possible to make out the line of demarcation between the testicle and the epididymis. The vaginalis process was closed and the vas was apparently uninvolved. Diagnosis of tuberculosis was made, but operation refused. March 29 there was no change except a slight reaccumulation of hydrocele fluid. April 30, after a few days' application of heat, which had been advised by the previous medical attendant, the child became fretful and cross. An area of redness appeared over the lower part of the indurated mass. After doubly assuring the father that this area contained pus, I was allowed to open and drain this softened area and a teaspoonful of pus was removed. The cavity was then packed with iodoform gauze. The child was seen the next day and the gauze removed and the cavity repacked. May 3, the previous packing had been removed the day before and it was impossible to reinsert the gauze. Nothing more was done to the fistula other than keep it clean. June 17 another soft area appeared on the upper and outer side of the scrotum. The fistula below was still discharging a small amount of pus. This was opened and drained and treated as the previous abscess had been. The pus was examined for tubercle bacilli but none could be found. The fistula remained open for many weeks but finally closed.

When this patient was last seen, in May, 1912, he was in good health and the testicle appeared normal. A small, firm band was found running from the scar on the scrotum to a rather small hard nodule in the epididymis. The tuberculous process had here been arrested and encapsulated.

Acute tuberculosis of the epididymis and testes is rare, and begins like gonorrheal epididymitis, suddenly and with acute symptoms. There is pain on palpation, the scrotum is edematous, with effusion into the tunica vaginalis, and the testicle enlarges to two or three times its natural size.

In most of these cases it is quite probable that some previously existing tuberculous nodules in the organ were present and not noticed by the mother. Abscess formation is quite rapid, and the pus may find its way to the surface and break externally, or burrow into the testes proper. A portion or all of this organ may be destroyed if the disease was primarily in the epididymis.

I have seen similar cases in the adult in which the patient would come down with a sharp, acute epididymitis on one side after severe exercise, and on examination of the other epididymis, prostate, and vesicles, find tuberculous nodules that had never been noticed by the patient.

In the case in which the prostate and seminal vesicles were found infected, frequent urination was the first symptom noticed by the mother, but as the case progressed the irritability became so marked that the patient was unable to retain his urine more than twenty to thirty minutes at a time. Tenesmus and pain became very severe toward the last in this case, for this little fellow had a crying spell after each urination.

The two patients with infection of the epididymis appeared to be in perfect general health, and nothing could be found suggestive of tuberculosis in any other organs of the body; but the patient with infection of the prostate and vesicles presented a typical tuberculosis appearance. There was loss of weight and strength, the temperature fluctuating between 99 and 101.

In the differential diagnosis, congenital syphilitic orchitis is the most common and the most difficult disease of the testes to exclude. The chief points in the diagnosis are the presence of other signs of congenital syphilis and the therapeutic test. The body of the testes is usually affected in the majority of cases as a diffused enlargement, but gumma may occur in the epididymis. The cord is rarely thickened; the prostate and vesicles never. Syphilis is almost always painless. A Wassermann reaction may be negative, but it may be possible for a syphilitic child to have a tuberculous testicle.

Sarcoma is the next frequent disease likely to attack the testicles in children, but it can usually be recognized by the rapidity with which the testicle increases in size without pain, softening or inflammatory symptoms. The cord is often enlarged, but the swelling is smooth and even. The lymph-nodes above and below Poupart's ligament may be involved early, but clinically, from the standpoint of treatment, they may be considered as one.

Hydrocele usually presents no difficulty of diagnosis. It should be remembered, however, that this condition is often a part of the tuberculosis of the testes and epididymis.

Benign tumors of the testicles, such as enchondroma, myoma, adenoma, etc., are of such rare occurrence that they need not be considered in the differential diagnosis.

The prognosis in primary tuberculosis of the genitals in children is usually favorable. Even when secondary infection has taken place and the abscess cavity opens externally, encapsulation takes place and a portion of the glandular structure is preserved. In fact, there seems to be a limitation of the tuberculous process in all organs of children, the one notable exception being tuberculous meningitis.

For the true conception of these cases, it is of importance to know that tuberculosis of these organs remains almost always the only tuberculous focus in the body; differing from later periods of life when it is frequently secondary to other tuberculous processes in the genito-urinary tract. Therefore operation may produce permanent cure, although this is not always certain.

In spite of the result obtained in these two cases, I should always advise operation.

Metropolitan Building.

THE PROBABLE EMBRYOLOGIC ORIGIN OF MIXED TUMORS OF THE TESTICLE *

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In presenting this paper I do not hope to add any new facts to those already accessible, only to bear witness to the position taken in the literature regarding the pathology and probable origin of mixed testicular tumors. In the last two years I have met with two cases of tumor of the testicle worthy of attention.

CASE 1.—O. M., waiter, colored, aged 29, was seen early in 1911. He gave a negative family and personal history, especially in regard to new growths. As seems to be the usual thing in these cases, he gave a history of an injury to the testicle at the age of 12 years, but had no trouble to speak of till about ten months before we saw him. He did say that he had had dull pain in this testicle at times for ten years previously, and that the testicle seemed larger than the other. During the three months before coming to us it became much larger and more painful. The testicle was

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removed, as well as the iliac lymph-nodes. The patient is still alive and has had no recurrence.

CASE 2.—M. D., aged 24, single, farmer, was admitted to Douglas County Hospital Jan. 1, 1913. Family history is negative; personal history is also negative except for the following: The patient was thrown on the horn of a saddle six years ago and injured the right testicle. The organ enlarged, later became hard and caused a dragging pain. He says a hernia appeared last June, which caused him a great deal of trouble. Three years ago he fell over a piece of timber and hurt himself in the region of the stomach, but noticed no discomfort from it later.

Three months ago he sprained his back in lifting a sack of wheat into a wagon-box, and three days later he rode a horse and noticed that his abdomen was painful. At first they were cramp-like pains. The pain increased and the abdomen became hard and tender. It has gradually increased in size from the time of the sprain. Appetite has been poor for the last month and eating caused cramps. Bowels have been irregular and difficult to move.

Genito-Urinary: Did not have to get up at night before injury, nor was there pain or burning; but since being hurt he has had pain, burning and difficulty in urination. Sometimes has to be catheterized.

Hospital records from January 1 to January 5 show that the patient had a tense abdomen, complained of pain after eating, was restless, had severe pain in abdomen and back not related to eating, and rested only under the influence of morphin. During this time his temperature ranged between 99.6 and 100.6 F., respiration 20 to 26 and pulse from 86 to 120.

Operation.—On January 5 he was operated on, the right testicle being removed and the abdominal mass drained. Subsequent to the operation there was great increase in the rate of the heart; later the pulse, temperature and respiration were between the limits given above. There was considerable postoperative hemorrhage and discharge of sanguineous material and cell detritus through the drain, but the patient rested fairly well and on January 12 complained of no pain. On the night of January 13 he complained of severe pain in the left ear, and on January 15 there was a discharge of a large amount of watery fluid. At 4 p. m. there was about 20 ounces of dark-green emesis. At 8 p. m. the pulse became weak; later the pulse and respiration began to fail, and patient died at 11 p. m.

Necropsy.—The findings have no bearing on the tumor, except the following:

Liver much enlarged, adherent to diaphragm in entire extent of contact. Greater part of liver substance is replaced by a reddish-gray, purulent fluid resembling anchovy sauce. Weight about 1,500 gm. (does not include fluid; Orth gives the weight of the liver for adults as varying from 1,000 to 2,000 gm). Adhesions between transverse colon and stomach. Colon bound down in entire extent by adhesions.

Tumor, in upper abdomen, and apparently retroperitoneal. There is a large mass to which the small and large intestines are adherent. This mass contains a large amount of semi-fluid, chocolate-brown substance like anchovy sauce, in which are curd-like masses. The fluid is very abundant and spurts forth actively as the incision is made into the degenerated tumor mass.

Right testicle previously removed. Left apparently normal. Weight plus epididymis and appendages, 37 gm.

Lungs large, no adhesions; some anthracosis; some discolorized areas; anemia; some edema. Some areas cut with normal elasticity, but greater part of lung tissue is replaced by areas of same material as in the tumor and liver. In the upper right lobe an area of tuberculous appearance is found; cut across it is gritty to the knife.

Heart normal. Shape normal. Color slightly anemic. Consistency rather firm.

Lymph-nodes of neck filled with same pus-like material as found elsewhere.

Microscopic.—Liver: Accumulation of pigment, evidently both of hematogenous and hepatogenous origin, about the central vein and Glisson's capsule, especially the former. Some small round-cell infiltrations, especially about capsule. Marked congestion; increased connective tissue in capsule; general fatty degeneration. Area of metastasis: Areas of large round cells; much connective tissue, also congestion and some small round-cell infiltration. Area shows marked cystic degeneration.

Lungs: Emphysema; anthracosis slight; atelectasis, congestion, some blood pigment, some small round-cell infiltration, especially beneath pleura. Area of calcification: Tuberculous nodule surrounded by connective tissue, and small round-cell infiltration marked.

Tumor: Mixed type, no regularity in formation of tissue cells; there are spindle-cells, some small round cells, and a few large round cells, all probably of connective tissue origin. Pus cells are numerous and there is much degeneration and necrosis so that the blood-vessels are not apparent. There are cell nests composed of cells epithelial in character.

Right testicle: Some parenchymatous degeneration; slight increase in connective tissue; marked congestion.

Left testicle: Shows areas of round-cell infiltration; large amounts of free blood; lymph stroma contains alveolar areas of epiblastic tissue and areas resembling the corium, showing syncytial cells with Langhan's cells and areas of cartilage.

These two cases present many points of interest. In the first there was no sign of metastases except those referred directly to the testicle. The cord was not enlarged to any extent and the entire tumor seemed to be local. We made an incision extending from the symphysis pubis to the anterior superior spine and removed the testicle, the cord, the retroperitoneal fat and the cord around the pubis with all its veins and tributary blood-vessels and lymph-nodes that we could find nearly to the prostate.

The patient made an uninterrupted recovery and is still living, two and a half years after the above.

The second case was seen late in its history. With the distended abdomen and the tuberculous family history, the intern in the hospital made a diagnosis of tuberculous peritonitis with the possibility of a tuberculous epididymis. The patient was anesthetized and the abdomen opened only to find the peritoneal cavity empty and the mass entirely retroperitoneal with liver metastases. The mass was a soft, bloody, grumous looking material resembling anchovy sauce. The testicle was removed. In three days the patient died, and at the post-mortem specimens were taken from the lungs, liver, thyroid, glands of the neck and kidneys, with the result enumerated before.

On microscopic study of the slides from these sections the diagnosis of mixed tumor of the testicle was made.

In the first case, after a careful study, we found the dominant cells to be epithelial, while in the second, at least in the metastatic growths, the dominant cell was of mesoblastic origin, with many epiblastic cells as well as mesoblastic in the testicle itself.

A complete review of the literature and theories of these tumors and their origin would carry us too far into the field of pathology for this paper, and we can only call attention to the recent papers of Ewing[1] and of Wilson.[2] Ewing has given us such a masterly review of the subject that little remains to be said regarding these peculiar tumors.

Our cases are, in our judgment, both of embryologic origin, as evidenced by the presence of syncytium and the cells of Langhans, the increased amount of muscle and the presence of cartilage, the large embryonal epiblastic cells arranging themselves in an alveolar form, the pres-

1. Ewing: Surg., Gynec. and Obst., October, 1910.
2. Wilson: Ann. Surg., April, 1913.

ence of large round cells, degenerating epiblast and chromogenetic cells.

As to the probable origin of these tumors, the first case seemed definitely to arise from the tubules of the testicle, or, at least, the tubules presented the microscopic appearance of infiltrating the lower layers of the tissue in their proximity. This tumor would, therefore, be readily classified as a carcinoma on superficial examination.

A microscopic study of the second tumor offered no evidence regarding its origin. The last would undoubtedly fall under the theory of Ewing, that these tumors arise in the sex cells of the testicle; the first did not appear to me to be nearly so indefinite in its origin.

Once again the conclusions of Ewing and the added ideas of Wilson may be quoted, as follows:

1. Pure fibromas and pure leiomyomas of the testis exist but are extremely rare, as is also adenoma occurring in atrophic undescended testes.

2. Primary lymphosarcoma and pure spindle-celled sarcoma are of uncertain origin.

3. Chondroma, myxoma, lipoma, rhabdomyoma and carcinoma have not been shown to exist apart from a teratomatous origin.

4. Alveolar large round-celled, perivascular and other forms of so-called sarcoma testis are of epithelial and teratomatous origin.

5. The commonest tumor of the testis is an embryonal carcinoma, alveolar or diffuse, with polyhedral or round cells and often with lymphoid stroma. These tumors are probably one-sided developments of teratomas.

6. Teratoma testes arise from sex cells in the neighborhood of the rete, whose normal development into spermatogonia has been suppressed but whose potencies remain intact and ready to express themselves in the various forms of simple or complex teratomas.

Wilson's application of the theories of Blanca and Bresseto would also further tend to prove the hypothesis of Ewing, that these tumors are of sex cell origin, and are teratomas.

We believe we are justified in concluding that these two cases fall under the classification of teratomas. We note that Wilson reports six of the nineteen cases as having had previous injury. Both of our cases reported injury.

From a clinical standpoint the question comes: What is to be done with tumors of the testicle? From the evidence gathered from recent studies it would seem that tumors of the testicle, like those of the breast and parotid, are at least frequently malignant.

Given a history of trauma some years previously, with a testicle slowly increasing in size, accompanied by rather indefinite pains, continued for several months, one is justified in removing the testicle for malignancy. Some may take issue with this position, but we believe that were this done many lives would be spared, and perhaps a few benign tumors removed. Our two cases illustrate also the two extremes of duration; in one case the tumor was attacked early, and in the other late. Just at what period in the histories of these cases metastasis takes place is not clear. In general it is early, we believe. The simple removal of the testicle is, in our judgment, not indicated, even if a malignant tumor is suspected; rather the removal of the entire cord, the retroperitoneal glands along the cord and as far as possible along the iliac veins, for evidently metastasis takes place frequently along this channel as indicated by the formation of retroperitoneal masses, as the late results of these tumors frequently show. Clinically it is important to recognize them as early as possible and to do a radical operation on them.

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OPERATIVE TREATMENT OF GENITAL TUBERCULOSIS

INDICATIONS AND TECHNIC *

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Most of us probably hark back to the old terminology under which we were brought up which regarded genito-urinary tuberculosis as a variety of starfish beginning in the bladder and radiating more or less completely in all directions. Certain remnants of this teaching still exist, and though tuberculosis of the kidney is now generally recognized as a primary lesion for the urinary tract, it is too little recognized that the genital tract also has its primary focus of infection. The term "genito-urinary tuberculosis" should be abandoned and we should come to recognize tuberculosis of the urinary tract as primary in the kidney, while tuberculosis of the genital tract in the male is primary in the epididymis. The bladder and the structures of the bladder neck, including the prostate, are more or less common to both genital and urinary tracts, and the prostate is therefore between two fires and may be infected with tuberculosis as a secondary matter either in urinary or in genital tuberculosis. It is important, however, to recognize that the infection of the prostate is rarely primary for the genital tract, and as our knowledge of this matter extends we incline to think that primary prostatic tuberculosis will be relegated to the same class of surgical curiosities as is primary tuberculosis of the bladder.

Our knowledge of infections of the genital tract have been crystallized by the excellent work of Belfield. Perhaps his most important contribution has been in calling attention to the excretory function still maintained by the genital duct. It will be recalled that the epididymis is the remnant of the old middle kidney, and in its rudimentary excretory capacity it picks up microorganisms from the circulation in a manner entirely similar to that of the kidney. Since the prostate has no such function it is easy to comprehend why it is so rarely infected as a primary matter, though its position makes it easy to recognize the probability of its secondary involvement. One of us (J. D. B.) has shown in a recent paper[1] that the presence of primary prostatic tuberculosis is asserted in only 6 per cent. of a large collection of well-studied cases.

The relation of the testicle to genital tuberculosis is also of paramount importance. Its proximity to the epididymis makes its secondary involvement an exceedingly easy matter, and this complicates our opinion as to the relation between the epididymis and the testicle in regard to primary involvement. It is our firm opinion, based on a considerable clinical observation, that primary involvement of the testicle is rare; but we are free to admit that it was involved to some extent in the process in over 40 per cent. of our cases of tuberculosis of the epididymis. Our opinion is therefore based on

* Read in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

1. Barney, J. Dellinger: Med. and Surg. Jour., Boston, July 3, 1913.

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the character of the process in the testicle, which appeared to be more recent and less extensive than that in the epididymis. This question is of importance as bearing on the attitude we should take in regard to removal of the testicle in tuberculosis of the genital tract, and also in regard to the importance of early operation on the tuberculous epididymis if we are to save the testicle from infection. It is only a comparatively short time since the operation of orchidectomy was regarded by the highest authorities as the operation of election for these conditions. Sound opinion has, we believe, entirely reversed this decision, but its stamp still remains on the surgical world and it is no rarity to see orchidectomy done when the involvement of the testicle by no means warrants it.

That the process reaches the prostate in a large number of the cases of genital tuberculosis has recently been shown by one of us (J. D. B.)[1] in an analysis of 101 cases from our clinic, where it was clinically present in 75 per cent. A more searching examination of these cases shows that 30 per cent. are involved in the first six months of the disease and 54 per cent. in the first year. The route by which the infection reaches the prostate is not yet clearly understood. Examination of the vas shows progressive involvement from below upward, but in few, if any, of the cases is the involvement sufficient to justify the belief that the involvement of the prostate takes place by continuity of the process. It seems fairly clear that the infection must extend by blood-stream or lymph-vessels, and we incline to the view that the lymphatic route is more common than has been generally believed.

Briefly restated, the clinical pathology of genital tuberculosis is as follows: The disease is primary in the epididymis, occasionally in the testicle, rarely in the prostate. The prostate is involved secondarily early in the disease and ultimately in a vast majority of the cases. The testicle is involved secondarily less often than the prostate and probably less early. It is of the first importance to recognize the distinction between primary and secondary involvement. The organs primarily involved show very little tendency to shake off the disease, while those in which it is secondary show a far greater power in this direction and will under favorable conditions be successful. On these facts we shall undertake to support our main thesis that the operation of election in genital tuberculosis is epididymectomy, including the accessible portion of the vas.

It has become a generally accepted doctrine when dealing with tuberculous processes elsewhere in the body that it is wise to remove by operation massive foci and to trust to the tissues the jugulation of the remaining tuberculosis. This principle applied to the urinary tract requires nephrectomy with removal of the accessible portion of the ureter, and it is generally recognized that the secondary processes in the remaining portion of the ureter and in the bladder heal in a majority of cases. Precisely the same principles should be applied to genital tuberculosis. The primary focus, the epididymis, should be dealt with radically. The secondary foci in the testicle may be dealt with locally and the secondary process in the prostate should be left to Nature. The last statement requires some explanation. If we advise dealing locally with the process in the testicle why not give the same advice in regard to the prostate? The difference depends on its anatomic location. To attack the tuberculous prostate is a radical procedure. The complete removal of the process when not under guidance of the eye is practically out of the question. We are far more likely to simply kick a hornet's nest and leave the patient worse off than when he started. In spite of some evidence to the contrary, we have been unwilling to attempt operative measures on the tuberculous prostate.

The management of the process in the testicle requires some further discussion. It has been our experience that the involvement of the testicle was in most cases contiguous to the process in the epididymis. Often only a small focus in one pole is to be found. When this is the case we have been satisfied to eradicate roughly with the curet and have never seen reason to regret it. It is clear that the testicle offers a very much higher resistance to the process than that offered by the epididymis. Cases will occasionally be seen, however, in which the involvement of the testicle is so considerable that it cannot be regarded as a harmless process; in these, though few, we must recommend orchidectomy.

We have held views somewhat at variance with generally accepted doctrines in regard to our duty toward the vas, and therefore feel required to give our reasons for the faith that is in us. We have insisted that it was desirable to remove the accessible portion of the vas for the reason that in years gone by we have too frequently seen recurrence in the stump of the vas when it was left in the neighborhood of the inguinal canal. Too often we have patients returned with scrotum perfectly healed and testicle apparently free from involvement, but with a troublesome mass in the groin or even a sinus, the healing of which required time, patience and tuberculin. We have therefore come to the opinion that the leaving of this portion of the vas complicates convalescence and may at times prove a serious annoyance. For these reasons we have recommended, and for five years one of us (H. C.) has practiced removal of the epididymis and removal of the vas up to a point at about the level of the brim of the true pelvis.

OPERATIVE TECHNIC

The local preparation of the patient should involve the skin of the scrotum and the groin of the corresponding side if the disease is unilateral. An incision is made over the epididymis about 2 inches long. If sinuses are present they should be circumscribed by the incision. This is carried down to and opens the tunica vaginalis, which will in many cases be found adherent to the testicle and must be separated by dissection. The testicle and epididymis are delivered from the wound. The epididymis is then separated from the testicle by a scissor dissection, as in this way the vessels which lie behind the epididymis are less likely to be destroyed. The separation should be begun at the upper pole and carried downward, the epididymis being separated from within outward. When it is free the lower inch or two of the vas should be stripped up by blunt dissection from the structures of the cord. A curved clamp is then applied to the vas and the epididymis and the lower inch or two of the vas cut away. The vas is then stripped up by blunt dissection with the fingers so as to free it from the structures of the cord up to the external inguinal ring. Guided by the finger, the clamp on the lower end of the vas is then passed up to the external ring and carefully inserted into the canal, care being taken to avoid pushing it in front to the canal between the fascia and the fat. The clamp is then pushed upward and outward, following the line of the inguinal canal until its tip lies directly beneath the

fascia at the level of the internal inguinal ring. The handle of the clamp is then strongly depressed, bringing the point snugly against the skin. An incision not over half an inch in length is then made on the point of the clamp, which is then pushed out through this incision carrying with it the distal end of the vas (Fig. 1). The vas is then picked up, and traction is made so as to pull out the portion lying in the canal so that the remaining portion dives vertically into the wound and over the brim of the pelvis. The finger is then inserted into the little wound, as shown in Figure 2, and the vas is freed as far as the finger can reach, making steady traction during this process. A right-angled clamp is then applied to the vas at the lowest accessible point. It is divided, cauterized with phenol (carbolic acid) and dropped back. The wound in the groin is closed with one catgut suture and the fascia with a silkworm-gut stitch in the skin. The operation is completed by the careful ligation of any bleeding points in the scrotum. Any apparent foci in the testicle are eradicated with a curet. The wound is painted with tincture of iodin and closed with a subcuticular suture of silkworm-gut, leaving a small protective tissue-drain at the lower angle. This drain has been found to shorten convalescence by giving free exit to the serum which necessarily oozes from the raw surface, the amount of which is considerably increased by the application of iodin. The dressing is held in place by the application of an Alexander bandage, one of the many devices of the late Samuel Alexander, which has been a boon to the genito-urinary surgeon. The drain can generally be removed in forty-eight hours and the patient may be up and about in two or three days. The after-treatment should include all of the general hygienic measures suitable for patients with tuberculosis, including the routine use of tuberculin and the routine use of sandalwood oil in cases in which there is involvement of the prostate.

The operation has seemed to us much superior to that involving a long incision through the scrotum and coverings of the inguinal canal in order to remove an equal amount of the vas. It takes less time in the doing, is equally efficient and shortens the convalescence about two-thirds.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. STOKES, LYONS AND CABOT AND BARNEY

DR. LOUIS E. SCHMIDT, Chicago: I am not in complete sympathy with the technic of Dr. Cabot. About ten years ago we had a tendency to remove as much of the vas as possible. Of late years there has been, I believe, an opposite tendency, and I have simply removed the epididymis and a short portion of the vas, and treated the vas in exactly the same manner as the Mayos treat the ureter; they inject a certain quantity of phenol (carbolic acid) and tie it off, and then cleanse the wound with saline solution. That has given good results. Naturally, if there is a question of the involvement of the vas, if nodules can be felt all along its course, the question will arise as to how far you should remove the vas, whether or not it should be removed high up close to the internal ring in fact, if it is involved beyond that point, and particularly if the vesicles are involved, it is a question whether or not the removal of the vesicles should be undertaken. Formerly I was in the habit of removing them, and I have specimens to show both testicles removed, when they have been involved by tuberculosis, together with both cords and both seminal vesicles. They can be removed intact, that is, with an incision along the groin and then a perineal incision. So far as I am familiar with this topic at present, if the vesicles are involved, the prostate is also involved, and there is a greater tendency to leave these alone, particularly if the primary focus is in the epididymis; if the epididymis is removed there is a tendency to improvement, as in the kidney, and I think that we should leave the larger part of the ureter in rather than attempt to make a ureterectomy, even if we know that the ureter is involved.

DR. HUGH CABOT, Boston: We have all seen patients known to have tumors in the scrotum who had been treated in some cases for months, and occasionally longer, under the belief that the change in the testicle might be due to syphilis. In that way I have, on at least two occasions, seen a tumor grow so rapidly that it was at least arguable that the patient's life was thrown away, and I do not believe that in the present state of our knowledge we are justified in observing these cases of unknown tumors involving the testicle. The Wassermann reaction may often exist, but assuming the Wassermann reaction to be negative, assuming that there is still doubt in our minds as to the possibility of the change in the testicle being gummatous, it is our duty to give the patient the benefit of the doubt and operate, and not sit back and make an attempt to cure him with antisyphilitic treatment. We shall probably never succeed in convincing the average practitioner of the truth of that statement. We must recognize the extreme malignancy of these tumors, the fact that, as we have been in the habit of managing them, the vast majority are not benefited by operation, that these patients die of involvement of the lymph-nodes, and that it is abundantly clear that we have not seen these cases early enough to be of substantial value to the patient. The remedy for that consists in enforcing the view that exploration in these cases is the method of giving the patient the benefit of the doubt and that the doubt should be removed by seeing exactly what is going on there.

I am not quite in agreement with Dr. Stokes in regard to what constitutes radical operation in these cases, because it must be remembered that the lymphatics of the testicle follow, at least to a considerable extent, the spermatic vessels, that the lymph-nodes in which metastasis takes place are those lying immediately below the kidney. If we are to make any considerable attempt at eradicating the glandular involvement we must make an incision which exposes the kidney. It has never seemed to me that this was worth while. I do not believe it to be possible to remove those glands in a way to be of benefit to the patient. The removal of the testicle, with the cord, at a point high up in the inguinal canal, is as much as we can do with advantage.

DR. ARTHUR DEAN BEVAN, Chicago: In discussing any case of tuberculosis one should remember that almost all of these cases are secondary. Tuberculosis of the epididymis is a secondary affair almost invariably, just as is tuberculosis of the kidney in a certain sense, in that they are hematogenous infections and that there is almost invariably some primary lymphatic tuberculosis or tonsillar tuberculosis in the body; when you handle a case of surgical tuberculosis, whether of the urinary tract or of the genital tract, you are not removing anything except the grossly involved structures no matter how radically you operate. If one carries that in mind I think one must necessarily come to this conclusion, just as general surgeons do in handling tuberculosis of any part of the body, that in case you can remove a tuberculous focus, the overshadowing focus, by an operation that is justifiable and easily borne by the patient, it is a proper thing to do, because the patient then has a much better chance of cleaning up the remnants of the tuberculous process that always remain.

In genital tuberculosis the proper thing to do in the great majority of cases would be a simple operation; removal of the epididymis and that part of the vas that is also grossly involved. I hardly think that it is good routine to follow the vas down to the brim of the pelvis, unless the vas is greatly involved, and if it is involved so far down as that, one may be pretty sure that the seminal vesicles and prostate are also involved. If a minor operation, without any hardship to the

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patient, would clear up the focus, that should be done. When that is done, the patient should be given the general hygienic treatment that is given in cases of lung tuberculosis, and possibly, of course, tuberculin.

I never have cured permanently a single patient with malignant tumor of the testicle. If you have a suspicious tumor of the testicle and you do not know whether it is malignant or not, there is just one thing to do, and that is to make an exploratory incision. I have found that some of the growths that I supposed were malignant were nothing

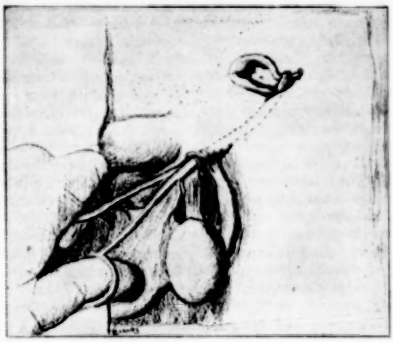

Fig. 1.—Vas held in curved clamp which has been passed up into the inguinal canal and is making its exit through a small incision opposite the internal inguinal ring.

more than compound hydroceles with thick walls. I have found some of them to be gummas. The possibility of permanent cure in malignant disease of the testicle is so small that we are not warranted in removing suspicious tumors which may be benign. There is little danger in making an exploratory operation in malignant tumors. It is perfectly rational and scientific to take out a section of tissue, examine it with the greatest care, and then, if it is malignant, do a radical operation.

DR. V. D. LESPINASSE, Chicago: I am heartily in accord with the operative technic which Dr. Cabot has described. I only wish to call attention to some of its difficulties. The first one of these is hemorrhage. I have had one or two cases in which it has been rather difficult to stop the hemorrhage from the testicle after the epididymis has been removed. Hemostasis must be done with a great deal of care, and it has been my practice, after I have stopped the bleeding, to put on a compression bandage at once. I should like to ask Dr. Cabot if, after treating the vas as he does and cutting it off down in the pelvis, he has ever had a transference to the pelvis of the mass that we sometimes get in the groin? It seems to me that this mass might possibly occur there and cause more trouble than if it occurred in the scrotum. It has been my practice to cut the vas off and inject it with phenol (carbolic acid).

DR. HUGH H. YOUNG, Baltimore: These tumors certainly are the most remarkable and bizarre type of tumors that we have. It seems to me that early operation is unquestionably the thing. I can remember a number of patients who have been treated unsuccessfully with iodid of potassium for months, and ultimately have come for operation when it was too late. It has been my habit to attack these tumors from above, that is, going in on the cord and dividing the veins and other structures of the cord high up, before there is any traumatism of the testicle, from which the veins might become infected, causing metastasis. In many cases of malignant disease it is important to get above the disease in order to prevent metastasis from traumatism and pressure at operation.

Dr. Cabot brought up a subject that has not been dealt with in a comprehensive way for several years. It seems that tuberculosis of the globus major of the epididymis is almost always primary and probably comes through the venous supply. The involvement of the second side generally occurs, just as a gonococcus infection occurs, in the globus minor, sometimes as a fulminating inflammation, with much pain, swelling, redness and tenderness, simulating a severe gonorrheal infection. It would seem to me, therefore, that, in some cases at least, when the second side becomes involved the disease has traveled up and involved the prostate and seminal vesicles and then gone down through the vas, involving the second side, just as the gonococcus does. Undoubtedly epididymectomy is the operation of choice and every effort should be made to preserve at least a portion of one testicle.

I had one case eight years ago in which I followed the vas far up into the groin and divided it at the pelvic brim. The patient had a tuberculous peritonitis afterward. That case has rather deterred me from following the vas so far. I usually follow the vas up to the groin and then inject iodoformized oil. It is generally possible to get from 15 to 20 c.c. of oil down into the vas deferens, and probably to fill the seminal vesicle and the posterior urethra with it. This method has been used in our clinic for years with good results. The trouble with the earlier operation was that it was too radical. The trouble with the operation through the perineum was that the urethra was invaded and a urinary fistula remained. I believe that if we do come to an operative treatment of these severe cases of tuberculosis of the prostate and seminal vesicles, it will be an operation possibly removing more or less completely the tuberculous seminal vesicles and the lateral lobes of the prostate, but not penetrating the urinary tract.

DR. S. A. MAHONEY, Holyoke, Mass.: Relative to Dr. Cabot's trouble in the region of the external inguinal ring when he has simply divided the vas deferens at the opening, I have had that same experience in a small number of cases. Patients have returned to me from one to two months after the scrotum and testicle have healed perfectly with a dis-

Fig. 2.—Tension is made on the vas by the operator's left hand, while with his right index-finger in the inguinal incision he frees the vas over the pelvic brim.

agreeable swelling and inflammation in the region of the external ring.

DR. A. C. STOKES, Omaha: It is practically impossible to make a clinical diagnosis of tumor of the testicle. The trouble has been to differentiate tumors from gummas, as Dr. Cabot has brought out.

On account of metastasis, I am inclined to believe with Dr. Bloodgood and others that exploratory incision into malignant tumors is not a good thing, especially in the testicle.

Metastasis often follows rapidly on an incision. It seems best to open the scrotum and then, if we should find an infiltrated hydrocele, the procedure is simple, but if we think that the growth is malignant we can make a frozen section and determine its nature at once; if it is malignant, we must take out all the glands as far as possible retroperitoneally.

DR. HUGH CABOT, Boston: In regard to the management of the vas the point to be remembered is that the involvement of the vesicle and the prostate bears no relation whatever to the involvement of the vas. The process does not reach the vesicle and prostate by continuity, but, as I believe, by the lymphatics. It is not easy to determine the amount of involvement of the vas. You will often find nodules separated by two or three inches. The infection has stopped at certain places along the lymphatics and invaded the vas. I have been disagreeably surprised to find little nodules along the vas far above the point I had suspected, and it has seemed to me that the removal of the accessible portions of the vas is important. I doubt whether the injection of any substance through the vas has any particular effect on tuberculosis of the vesicle, because the process is not in the lumen but in the wall. The vesicle is involved from without, not from within. Certain it is that the removal of the vas in this way—we have been doing it for years—has left the patients much more comfortable, and I must see something other than theoretic reasons for changing my views.

The involvement of the second side is an interesting problem. I do not believe that there is any reason for regarding it as an involvement by continuity. I believe that the process reaches the prostate and the vesicle by the lymphatics, and that it reaches the second epididymis by the lymphatics or by the blood-stream. I do not believe that it walks up one side and down the other any more than I believe that this is the common method of transference of the gonococcus. We want to remember that Keyes' statistics and other large statistics, including a series of one hundred cases by Dr. Barney, show that involvement of the second side must be expected in 50 per cent. of the cases within two years. This might as well be taken into consideration from the first.

It has seemed clear that the leaving of the testicle is important. The testicle is valuable for three reasons: In the first place, it forms spermatozoa. We must recognize at once that those patients with involvement of one epididymis in tuberculosis are sterile as demonstrated by Keyes, Barney and by foreign observers, so that, so far as the spermatogenic function is concerned, we may drop it; but nobody to-day, I think, doubts the presence and the value of the internal secretion of the testicle. The third factor in regard to the testicle is its psychic value to the patient, apart from the internal secretion. The average man is much interested in his testicle, and for what seems to me perfectly sufficient reasons. Now what is the logic of the old method of orchidectomy? If you begin by taking out the first testicle, the patient is liable to put a hard problem up to you or somebody else by coming around with the other testicle involved so that you ought to take that out, and then he refuses to have it done. The logical thing is to leave what is there accessible, not seriously damaged, and take your chances on the other side.

Dust.—There is no substance on the face of the earth which does not enter into the composition of dust. In the home there are particles of furniture, clothing, food-stuffs, animal and vegetable matter, bacteria, particles of wall-papers, plaster, iron and other metals, carpets, rugs, books and everything in the process of nature's decay contributing its quota of dust. In the street all the foregoing are in evidence in the dust, also particles of steel and iron from the wearing of wagon-wheels and horseshoes, gold, sand, stone, hair, excreta, clay, minerals of every kind, bacteria, leather skins, plant life, animal life of many kinds—in fact, there is nothing imaginable which does not contribute to the dust of the earth, and many thousands of dust particles may be found in every cubic inch of the air we breath.—*Bull. Winnipeg Dept. Health.*

CHRONIC STENOSING GASTRITIS*

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Chronic stenosing gastritis was recognized and described by both Andral[1] and Cruveilhier[2] in 1829. Since that date much discussion has ensued among pathologists as to the nature of the process, some maintaining that it is always a malignant or cancerous condition, others that a benign inflammatory stenosis may occur. Among the synonyms found are "chronic interstitial gastritis," "sclerosis of the stomach," fibroid induration," "hypertrophic stenosis of the pylorus," "cirhosis of the stomach" or "linitis plastica." The term "Schrumpfmagen" has been most commonly employed in Germany. Von Sury[3] distinguishes two forms, a carcinomatous and a simple inflammatory type. He defines the latter as a primary increase in the thickness of the stomach wall, produced by a connective-tissue hyperplasia involving the submucosa and subserosa, the capacity of the stomach being diminished by a secondary contraction of the newly formed connective tissue. In a very exhaustive and critical review of the literature, he concludes that the etiologic factors involved in the simple inflammatory type are round ulcer, gastritis phlegmonosa, chronic gastritis, chemical irritants, syphilis, polyserositis occurring in passive congestion in diseases of the liver, heart and lungs, chronic peritonitis, primary *Zuckergussleber* of Curschmann, and trauma.

Congenital hypertrophic pyloric stenosis is not considered here, inasmuch as this condition appears to have no relationship to the etiology of the benign stenosis occurring in adults.

While one cannot deny that the before-mentioned etiologic factors can result in the pathologic process known as simple inflammatory contracted stomach, or *Schrumpfmagen*, nevertheless for clinical reasons it would seem best to restrict the term "chronic stenosing gastritis" to those cases in which a long-continued gastritis has been the causal factor. I shall therefore consider only this simple form, in which the stomach alone is involved. A few have combated this view, notably Charles F. Martin,[4] who takes the position that chronic gastritis has no etiologic relationship to simple contracted stomach. He agrees with Brinton and terms the process linitis plastica, or cirrhosis of the stomach. He considers it due to an overgrowth of connective tissue, such as may occur in any part of the body, caused by unknown irritants.

Von Sury shows that all the careful modern histologic studies of cases reveal the fact that the mucosa as well as the submucosa and subserosa is involved in the inflammatory process, and that pathologically it must be considered as a true gastritis. He particularly emphasizes that the passive congestion occurring in heart failure is a distinct etiologic factor in producing a polyserositis involving the stomach and other abdominal organs, and that Curschmann's *Zuckergussleber* is allied to this process. It is clear that clinically we may exclude cases of this class as well as general chronic hyperplastic peritonitis. Hemmeter refers to the confusion existing in the literature and points out that many cases of ulcer

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* Read before the American Gastro-Enterological Association, Washington, D. C., May 6, 1913.

1. Andral: Précis d'anatomie pathologique, Brussels, 1829, ii, Part 1, p. 46.
2. Cruveilhier: Anatomie pathologique du corps humain, 1829-1835, ii, Books 12 and 27.
3. Von Sury, Kurt: Beitrag zur Kentniss der totalen, einfach entzündlichen Magenschrumpfung und der fibrösen Polyserositas (Zuckerguss), Arch. f. Verdauungskr., 1904, xiii, No. 1, p. 1.
4. Martin, Charles F.: Osler's Modern Medicine, p. 311.

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cicatrices have been reported under the term chronic stenosing gastritis. It is obvious that trauma cannot be considered as an etiologic agent.

The cases of Hemmeter and Stokes,[5] Einhorn,[6] Reignier,[7] Gross[8] and others make it clear that syphilis may produce contraction and stenosis of the stomach, which is extremely difficult to differentiate from the condition caused by chronic gastritis. It is probably better, however, to consider this form as only one of the several manifestations of gastric syphilis.

Primary chronic stenosing gastritis, therefore, always results from a long-continued, chronic inflammation. The hyperplasia affects chiefly the pyloric half of the stomach and ultimately results in a diminution in the lumen as well as a narrowing of the pylorus.

The symptomatology is that usually observed in the progress of an ordinary chronic gastritis, except that signs of stenosis gradually appear. In late cases, hydrochloric acid is absent and lactic acid and Oppler-Boas bacilli are often present. Nothnagel mentions that a smooth indistinct resistance may often be palpated. The differentiation from diffuse scirrhus carcinoma may be difficult, as both may give the same stomach content findings. Occult blood is often absent in this type of carcinoma, as well as in chronic stenosing gastritis. The anamnesis and the course of the disease are the determining factors. Recently S. Jonas[9] has asserted that the Roentgen ray will show an insufficient or gaping pylorus in diffuse scirrhus carcinoma.

The stenosis caused by ulcer scar is totally different in clinical manifestations. The presence of hydrochloric acid in the fasting stomach should alone be sufficient to differentiate.

In the vast majority of cases, the diagnosis has been made at necropsy. Even here, difficulties are encountered. Von Sury demonstrates that the endothelial cells of the lymph vessels may assume a peculiar cuboidal form which closely resembles epithelial cells. On the other hand, the epithelial cells may be so few in number as to escape detection in true diffuse carcinoma.

Excluding syphilis and doubtful cases, such as ulcer scar, diffuse carcinoma, etc., the writer limits the number of genuine cases of chronic stenosing gastritis to twenty-nine.

Tilger[10] tabulates twenty-three cases; of this number, four occurred between the ages of 20 to 30, seven between 30 and 40, six between 40 and 50, two between 50 and 60, two between 60 and 70 and two over 70. Boas'[11] three patients were aged 32, 43 and 47, Hemmeter's[12] four patients 23, 28, 36 and 38 years.

REPORT OF CASE

Patient.—A farmer, aged 36, good family history, came under my observation in April, 1910. He had an attack of acute articular rheumatism at age of 14. He uses no tobacco, but had been a steady moderate drinker since the age of 20, averaging three glasses of whisky a day. During the past year he had abstained entirely from alcohol. No history of syphilis. His stomach trouble began twelve years ago; at first, only discomfort and eructations of gas after eating; eventually, nausea and vomiting appeared; never any pain. These symptoms with the usual remissions and exacerbations have persisted since. Six years ago a test-breakfast was given and he was told that he had no hydrochloric acid in the stomach contents. For the past year his appetite has failed, and he has been obliged to resort to liquid and semi-solid foods in small quantities. Solid foods as well as large quantities of liquids always produce nausea and vomiting. His strength has failed and he is no longer able to do his work.

Examination.—He is a sparely built man, 5 feet 9½ inches in height, weight 117 pounds. Maximum weight twelve years ago, 135 pounds. He is somewhat anemic looking. Chest reveals nothing abnormal. Abdomen, rather narrow epigastric angle, very little fat, strong musculature. The entire epigastrium is tender to pressure. Tendon reflexes normal. Pupils respond well to light and accommodation. A Ewald-Boas test-breakfast, 60 c.c. Chyme, bad. Much stomach mucus. No hydrochloric acid. Total acidity 8. No rennin, no lactic acid, no long bacilli. Fasting stomach contents, 30 c.c. of yellow turbid liquid; no fetor; no food residue; no hydrochloric or lactic acid. Microscopically there are many pus-cells and squamous epithelial cells. The feces on vegetable diet show no occult blood. Schmidt's test-diet shows a good utilization of the starches, fats and proteins. Blood: Hemoglobin 60 per cent. No leukocytosis. Red-cells 3,500,000, well filled. No poikilocytosis. Wassermann reaction negative.

Fig. 1.—View of gastro-intestinal tract, taken immediately after the ingestion of 500 c.c. of bismuth and fermented milk. Note the extensive dissemination in the small intestine. This and the following radiograph were taken by Dr. R. D. Carman.

Urinalysis: The urine is scanty, but otherwise normal.

Treatment.—He was dieted carefully, but grew progressively worse and was confined to bed. Even liquid foods in small quantities were vomited. In June, pyloric stenosis was suspected as the fasting stomach showed small quantities of stagnating food remnants. Lavage produced considerable relief. Roentgenograms could not be procured as the patient

5. Hemmeter and Stokes: Chronische hypertrophische Gastritis syphilitischen Ursprungs, etc., Arch. f. Verdauungskr., 1901, vii, s. 313.

6. Einhorn, M.: Ueber Syphilis des Magens, Arch. f. Verdauungskr., 1900, vi, s. 150.

7. Reignier: Cited by Von Sury: Syphilitische und alkoholische sklerose, angehend vom obersten Teil des Dunndarms mit vorschluss der Lichtung, Jour. de méd. de Paris, 1898.

8. Gross, H.: Die syphilitische fibröse Magen und Darmstriktur, München. med. Wchnschr. 1903, No. 4.

9. Jonas, S.: Zur Diagnostik des Schrumpfmagen, Wien. med. Wchnschr. 1909, No. 5, s. 262.

10. Tilger, A.: Ueber die stenosierende Pylorushypertrophie, Virchows Arch. f. path. Anat., 1893, cxxxii, s. 290.

11. Boas: Ueber hypertrophische Pylorusstenose (stenosierende Gastritis) und denen Behandlung, Arch. f. Verdauungskr. 1898, iv, s. 47.

12. Hemmeter, J. C.: Diseases of the Stomach, 1911, p. 613.

could not retain the bismuth meal. In July his weight was reduced to 102 pounds. Lactic acid and Oppler-Boas bacilli were frequently found in the stomach contents. The pus increased in quantity. The glyoxyltryptophan test was negative. Hemoglobin 35 per cent. The blood-smear showed no signs of pernicious anemia.

August 3: Operation by Dr. Willard Bartlett. The stomach was found to be small and presented a peculiar feeling of resistance. The serosa was thin and smooth, the pyloric region was particularly hard but was smooth and uniform. Anterior gastrojejunostomy was done. The stomach wall was ½ inch in thickness and was difficult to cut through. The

Fig. 2.—Same subject; picture taken immediately after No. 1. Very little of the bismuth mixture remains in the stomach.

incised surface presented a white, almost cartilaginous appearance. The mucosa was thin and anemic looking. The pylorus would not admit the end of the finger. Considerable difficulty was experienced in applying the sutures because of the toughness of the stomach wall. The patient made a good recovery.

Sept. 9, 1910: Weight, 111 pounds. Able to take liquid food without discomfort, no more than 4 ounces at a feeding. Roentgen fluoroscopy: The stomach is small, the bismuth and fermented milk mixture is swallowed slowly and passes at once out of the gastro-enterostomy stoma, so that it is impossible to obtain a view of the stomach contour.

Dec. 20, 1910: Improvement continued, weight 125 pounds. The patient is able to take semisolids and 8 ounces of liquids at a feeding. Fasting stomach contents, 20 c.c. bile-colored liquid, no food residue, no hydrochloric or lactic acid, no pus cells, no long bacilli.

June 13, 1911: Weight 130 pounds. Patient takes larger quantities of foods, but cannot tolerate meats. Test breakfast, 40 c.c. Chyme bad, much stomach mucus, slightly tinged with bile, no hydrochloric or lactic acid, no long bacilli. Fasting stomach contents, 15 c.c. bile-colored liquid, no hydrochloric acid, no food residue, no pus.

September, 1912: Weight 130 pounds. Stomach content findings same as last time. Hemoglobin 75 per cent. Roentgen fluoroscopy reveals stomach dimensions after rapidly drinking 1 pint of the bismuth suspension to be: length from cardia to lower pole, 6 inches; width near cardia, 3 inches; width near pylorus, 1 inch. The food passes very rapidly out of the gastro-intestinal stoma without any intermittence. Very small masses pass intermittently out of the pylorus. There is no peristaltic wave visible; the stomach moves up and down when food is introduced, making an excursion of about 1 inch, not synchronous with respiration. The roentgenograms were taken as rapidly as possible, Figure 1 immediately after the bismuth suspension was drunk, and Figure 2 as soon as a second plate could be put in position.

The rapid dissemination of the bismuth in the small intestine is clearly shown. This is probably due to the gaping of the incision in the thick wall of the stomach.

The patient continues in excellent health, and considering the history of the case and the course of the disease subsequent to the operation, the possibility of carcinoma is probably not to be considered now.

The roentgenograms were taken by Dr. R. D. Carman.

625-632 Metropolitan Building.

BLADDER SUTURE FOUR YEARS AFTER OPERATION

JAMES R. JUDD, M.D., HONOLULU, T. H.

About three years ago[1] I described a case of intraperitoneal rupture of the urinary bladder in which operation was performed seventy-seven hours after the receipt of injury. The patient made a good recovery and was entirely free from any bladder symptoms subsequently.

Four years after the operation the man died of pneumonia and the bladder was removed at the post-mortem examination. There were no adhesions along the suture line. The scar of the rupture is represented by a thin line 2¼ inches in length. At the time of the operation the rent easily admitted

Bladder, showing scar of operation done four years previously for intraperitoneal rupture. The scar extends from points x to x.

four fingers. An additional point of interest is the fact that a careful search failed to reveal any trace of the continuous silk suture used at the operation.

1. Judd, J. R.: Rupture of the Urinary Bladder Operated on Seventy-Seven Hours after Injury, THE JOURNAL A. M. A., April 9, 1910, p. 1207.

Coal-Mine Accidents.—The risk of coal mining is greatest during the winter months, when the liability of serious mine explosions is increased by the drying of the mines through the entrance of air below the temperature of the workings. —Horton, *Bull. Bureau of Mines.*

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A CASE OF DISLOCATION OF PROXIMAL PHALANX OF GREAT TOE

P. G. SKILLERN, JR., M.D., PHILADELPHIA

P. W., male, white, laborer, aged 56, reported at the surgical outpatient department of the University Hospital, service of Dr. B. A. Thomas, May 28, 1913, with the history of having been kicked by a horse nine weeks previously, and of having been treated at another hospital for an injury to the left knee. He now complains of pain in great toe. Examination reveals fixation of great toe in extreme extension and crepitation at metatarsophalangeal joint. The roentgenogram (Fig. 1) shows displacement of proximal phalanx of hallux onto the dorsum of the head of its metatarsal. The anteroposterior view (Fig. 2) is of interest in showing concomitant displacement of the sesamoids from the plantar aspect to each side of the joint. Under nitrous oxid reduction was attempted by means of Levis' apparatus, but owing to lacerations of the skin this method was abandoned. A trial was next made of the method proposed by Dr. Crosby of New Hampshire in 1826, for reducing dislocations of the thumb, which was so well spoken of by the elder Gross. The toe was raised perpendicularly and strong pressure applied against the base of the phalanx, so as to push it from behind forward and from above downward. Reduction was maintained by strapping the hallux down on a plantar splint, which was applied after the method described by Cotton.

Fig. 1.—Base of proximal phalanx of great toe resting on dorsum of head of first metatarsal. Note plane occupied by sesamoid. Lateral view.

Fig. 2.—Note shortening of hallux and diastasis of sesamoids so as to embrace the joint. Anteroposterior view.

This injury was evidently overlooked at the other hospital, and the deformity must have been greatly increased during the intervening nine weeks by contraction of the extensor hallucis proprius.

That the injury is rare is attested by the statement of Dr. Henry K. Pancoast, who took the roentgenogram, and also by the fact that Gross[1] had seen but two cases. Of twenty-two cases of luxation of the proximal phalanges of the toes Malgaigne states that nineteen were of the great toe. In Holmes' "System of Surgery,"[2] the analogy between this luxation and that of the corresponding phalanx of the thumb is pointed out, as well as a similar difficulty in reduction. In four out of ten cases noted by Malgaigne[3] the reduction could not be accomplished. In accounting for this difficulty of reduction it is of interest in connection with our case to note the statement of Gross[1] that "it depends probably on the manner in which the adductor muscle and the sesamoid bones are dragged by the displaced phalanx backward over the extremity of the metatarsal." The roentgenograms, especially Figure 2, show clearly the relative positions of the sesamoids, and that they in no way interfere with reduction, not in my case at least.

241 South Thirteenth Street.

CASE OF FOREIGN BODY IN THE RECTUM

FRANK M. CONLIN, M.D., OMAHA

On the morning of Aug. 11, 1913, I was called by the proprietor of a hotel to see one of his employees, a dishwasher, who, he said, had been sick since the day before. The patient, a Dane, aged 68, stated that he had fallen on a cup about two weeks before and cut himself. He complained of severe pain in the left iliac and hypogastric region. He gave no history of vomiting, but stated that his bowels had moved the day before and that he had urinated that morning. His temperature was 99 and his pulse 80. There was blood on the bed. Examination showed a mass in the left iliac region.

I took him to the hospital, and on further examination found blood coming from the rectum, and a deep laceration through the mucous membrane and the sphincter muscle in its posterior aspect. Examination under anesthesia disclosed a china cup in two pieces, the smaller piece being about one-third of the side of the cup.

The cup, being firmly held with a pair of pliers, was broken into eight pieces with short quick raps of the hammer on a cold-chisel, and the pieces removed.

I irrigated the area with normal salt solution and could find no perforations. Examination of the cut surface of the sphincter showed an old wound covered with granulations, the bottom made up of fibrous tissue. The sphincter muscle and mucous membrane were sewed later. The man made an uneventful recovery, leaving the hospital in nine days, seemingly with good control of the sphincter. I am convinced that the patient had been accustomed to putting foreign bodies in the rectum for some time to satisfy an abnormal sexual appetite, and that at this time he inserted the cup, when, on account of the spasm of the sphincter at the time of the orgasm, the cup was forced up inside. He evidently had made an attempt to remove it afterward, which would account for its being broken.

The cup, a thick one without handles, measured 82.5 mm. (3¼ inches) in height, 90.5 mm. (3 9/16 inches) in diameter across the top, 51 mm. (2 inches) across the bottom and 1 cm. (6/16 inch) thick.

Kelsey mentions a specimen in the Museum of Anatomy and Pathology in Copenhagen, which was introduced by a patient in an attempt to prevent a prolapsus. It is a long, oval, flat stone about 6¾ inches long, 2½ inches wide, 1½ inches thick and weighs nearly 2 pounds. The stone was extracted by a surgeon, Frantz Dyhr, in 1756.

In the Surgical History of the War of the Rebellion, II, p. 322, there is mentioned an operation performed on a sailor who had introduced into the rectum a stone 5½ inches long by 3 inches wide. The colon was perforated, and the stone was removed from the peritoneal cavity by an incision near the umbilicus.

1. Gross: System of Surgery, 1882, i, 1162.
2. Holmes: System of Surgery, 1881, i, 989.
3. Malgaigne: Agnew's Surgery, 1881, ii, 126.

New Instruments and Suggestions

NEW KIDNEY FORCEPS

FERDINAND C. WALSH, M.D., SAN ANTONIO, TEX.

Those doing kidney work are well aware of the difficulty frequently encountered in the delivery of the kidney preliminary to nephrotomy, nephrectomy or operative procedure on the pelvis or upper portion of the ureter. Tardy delivery is often the main factor in prolonging an operation which otherwise would occupy but a few minutes.

So far as I am aware, all forms of kidney forceps now on the market, when fitted to the kidney, possess the drawback of exerting undue pressure on the renal substance, thereby frequently causing irreparable damage to the organ, or through hemorrhage, from tearing the friable kidney substance, causing the operator much annoyance and extra repair work.

The forceps which I devised, and which I have found serviceable in overcoming those difficulties, as will be seen from the accompanying illustrations, is of a modified obstetric pattern, fitted with a Hodge lock. The opening between the tips of the blades allows a firm grasp of the kidney with non-interference from the pedicle which rides free between. In delivering the

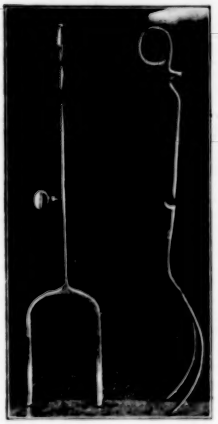

Fig. 1.—Walsh kidney forceps; posterior and side view.

Fig. 2.—Walsh forceps in position on kidney. Note wide space between tines.

Fig. 3.—Walsh forceps on kidney; side view.

kidney, the traction exerted in no way causes compression of the kidney substance, as the blades lock loosely over the kidney, and all force is directed from above downward on the pedicle itself. When the kidney has been exposed, after stripping off its fatty capsule, the anterior blade is first introduced, in order that no damage may be done to the peritoneum. With a finger behind the kidney to locate the pedicle, the blade is carefully put in position, the pedicle being allowed to slip between its tips. The opposing blade is placed in a like manner behind. With the blades locked, gentle traction is made, and in this manner adhesions become taut, and may easily be stripped, or, if deemed expedient, ligated and cut. After delivery, should it be desired to do a nephrotomy or pyelotomy, the handle of the forceps is turned directly backward, the upper blade removed and the lower blade thrust forward, thus allowing the kidney to ride free above the incision, the blades projecting well beyond both edges of the wound, preventing the organ from dropping back into the cavity.

The width between the tines for the reception of the pedicle is 1¾ inches. The convex blades fully closed measure in their long axis 4½ inches, while the transverse diameter is 2 inches. The kidney used in the illustration is an unusually small one.

Moore Building.

A SIMPLIFIED COLORIMETER

SPECIALLY ADAPTED FOR TESTING THE EXCRETION OF PHENOLSULPHONEPHTHALEIN IN THE FUNCTIONAL KIDNEY TEST *

JAMES I. ARMSTRONG, M.D., PITTSBURGH, PA.

Finding the less expensive colorimeters in general use for the kidney functional test (as popularized by Rowntree and Geraghty) rather unsatisfactory, I devised the instrument here described. Figure 1 shows the colorimeter closed, with an opening in the anterior surface giving a view of the bottles in position. Figure 2 shows the two compartments with closed sides and posterior surface of opal glass. A two-candle-power frosted globe is used for illumination.

The standard solution is made by diluting 6 mg. of phenolsulphonephthalein with 1 liter of distilled water and adding sufficient 25 per cent. sodium hydroxid solution to elicit the maximum color. The small bottle is filled with the standard solution, hermetically sealed and labeled 100 per cent. Serial dilutions are now made of 95, 90, 85 per cent., etc. The bottles are to be kept in a dark case and refilled when necessary. The test is carried on in the usual manner. The urine is diluted to 1 liter with distilled water, to which a 25 per cent. solution of sodium hydroxid is added to give a maximum color reaction, and a small quantity filtered. A bottle of this filtrate the same size as that of the standard solution is placed in one compartment, and the standard solution which matches this in

Fig. 1.—Colorimeter closed, showing bottles from anterior.

the other compartment and the percentage excreted, read directly.

The advantages which this colorimeter has over others are: (1) its accuracy, simplicity and cheapness; (2) its uniform light at all times, (3) and the ease with which it can be carried in case of emergency.

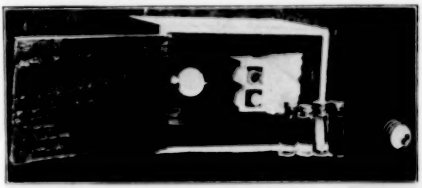

Fig. 2.—Bottles in position, extra bottles, etc.

The instrument can also be used for colorimetric determination of indican, creatinin, etc.

I wish to thank Dr. Fisher, who made the pictures for me.

476 South Rebecca Street.

* From the Laboratories of the Western Pennsylvania Hospital, Pittsburgh, Pa.

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SOME INEXPENSIVE EQUIPMENT FOR THE PHYSIOLOGIC LABORATORY*

CLAYTON McPEEK, M.D., COLUMBUS, OHIO

Many instruments for the work in experimental physiology can be made in the laboratory at little cost. These pieces are sometimes more desirable than factory-purchased supplies and are an especial boon to schools with limited means.

Fig. 1.—*A*, a steel bar ⅝ inch square and 4 feet long which passes through *B,B*; *B,B*, cast-iron pieces 1½ inches square posteriorly, with concave anterior surfaces for the attachment *C,C*; *C,C* are made from strap-iron 1¼ inches wide, ¼ inch thick and of sufficient length to encircle the base of the kymographs, *K,K*; *E,E*, thumb-screws for tightening of parts *C* around *K*; *D,D*, thumb-screws for adjustment of *B,B*, on *A*. The entire apparatus may be nickeled or given a coat of aluminum to prevent rusting.

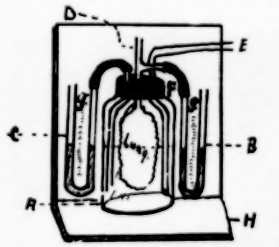


Fig. 2.—*A*, quart Mason jar the sides of which represent the chest wall; *F*, cap of the jar through which a large opening is made and a three-hole rubber stopper is placed; *D*, a T-tube, passing through the opening represents the trachea, to the lower end of which animal lungs are fastened; *B*, a mercury manometer connected to side branch of *D*, registering intrapulmonic pressure; *C*, a mercury manometer connected with space between lungs and bottle, registering interpleural pressure; *E*, a tube connected with a movable reservoir of water, raising or lowering of which will produce respiratory movements; *G,G*, millimeter scales for the exact determination of the changes; *H*, the support to which the entire apparatus is firmly secured. The lungs may be attached to the trachea by removing the cap of the jar and detaching the rubber connections to the manometers.

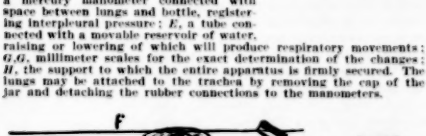


Fig. 3.—*A*, a clay pipe over the bowl of which a piece of rubber tissue is tied; *C*, a piece of cork or circular aluminum plate to which a lever, *F*, is lightly fastened. *B*, a piece of stiff wire encircling the stem; to its upper extremity *E* is soldered; *E*, a narrow strip of tin with ends bent at right angles; a rubber band is lightly stretched between the uprights. The lever, *F*, can be made from aluminum wire. It perforates the rubber band and rests on the cork, *C*.

An extension kymograph suitable for most purposes can be conveniently made by using two ordinary Harvard spring kymographs as a basis (Fig. 1). In operation one drum may be thrown out of gear or both kymographs run at uniform speed. In the laboratory any group of students having two small kymographs can make an extension kymograph. The cost of the entire apparatus is less than $4.

A scheme designed to show phases of respiration, respiratory pressures and their modifications can be made from a quart Mason jar (Fig. 2).

Ether cones suitable for animal work can be made from coarse meshed wire. Rectangular strips of wire are bent into suitable form and the ends soldered or wired together. Pieces of gauze are wound back and forth through the top as in the Allis inhaler. Canvas is sewed on the outside of the cone. If this is then covered with a melted mixture of white wax and paraffin a tight and ether-saving cone results.

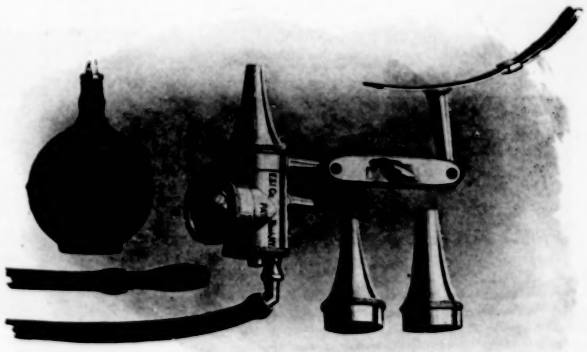
An inexpensive tambour can be made from an ordinary clay or cob pipe (Fig. 3).

* From the Laboratory of Physiology of the Starling-Ohio Medical College.

THE MYRINGOSCOPE

GEORGE G. CARROLL, M.D., ROCHESTER, N. Y.

This instrument consists of a cylinder, one end of which is closed, and at the other end is fitted any one of three sizes of specula depending on the caliber of the external canal of the ear to be examined. On one side of the cylinder there is a round window with a magnifying lens, while inside and opposite the round window is a plain mirror at approximately an angle of 45 degrees. Inside the cylinder is attached a Tungsten lamp lighted by a 2½-volt dry battery, or it can be lighted by any other rheostat or controller desired. There is also attached to the cylinder an auscultation tube.



Myringoscope, with additional specula and bulb for converting instrument into a Siegel otoscope.

This instrument is held into the canal of the ear by an adjustable spring that fits laterally across the head. Before this instrument is used the external auditory canal should be thoroughly cleansed and an ear-piece of the proper size fitted, while at the same time any unusual characteristics of the external auditory canal can be noted, so that in using the myringoscope the best possible view may be had of the membrana tympani.

In using this myringoscope the spring is fitted across the head from the upper extremity of one ear to the other, the spring being bent first, if necessary, so that it will clasp the sides of the head firmly; then the clamp is bent down and lastly the speculum end of the instrument is swung into the external auditory canal, being pressed inward, upward and backward. It is also to be remembered that all movements are reversed. This instrument when in position gives the operator, while seated in front of his patient, a magnified view of the membrana tympani, while at the same time he has the

advantage of the auscultation tube while inflating the tympanum. If a rubber band has previously been stretched around the tip of the ear-piece so as to make it fit as perfectly as possible to the external auditory canal, the instrument can, in a moment, be converted into a Siegel otoscope by attaching a rubber bulb to the auscultation tube at the ear-piece of the operator. Thus a comparison can be made between the excursions of the membrana tympani from inside pressure, and those of the Siegel otoscope compression and aspiration.

So far as I know, the use of such an instrument is new for the study of the patency of the eustachian tube, inflation of the tympanum and the study of the excursion of the membrana tympani from inside air-pressure, as compared to the Siegel otoscope findings from without. Just what its efficiency will be in diagnostic work, time only can tell.

304 West Avenue.

A NEW RETRACTOR FOR THE ABDOMINAL CONTENTS DURING PERITONEAL CLOSURE

M. B. AHLBORN, M.D., WILKES-BARRE, PA.

This retractor was devised to take the place of the spoon and other appliances, which it becomes necessary to remove after the peritoneum is partially closed. The retractor, as will be seen, consists of five blades (or more if necessary, for increasing its field of retraction), a set-screw and a handle, all of which come apart by simply unscrewing a set-screw, thus rendering washing and sterilization extremely easy.

Figure 1.

For use the blades are attached to the handle and spread out like a fan with their edges just touching, this being done to prevent catching any abdominal contents when the retractor is closed and withdrawn at the end of the peritoneal suture (Fig. 1). The blades are set in this fan shape by screwing down the set-screw just tight enough to make them fairly rigid and they cannot become loose and drop off as the fifth or bottom blade has a very deep-seated thread to hold the screw, requiring a number of turns before the screw can be withdrawn from the blades.

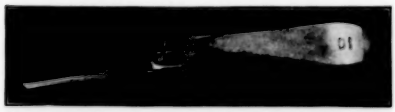


Figure 2.

The retractor is placed in the wound and held by an assistant but not pressed down hard, as this causes the bowels or mesentery to slip up over the edges of any retractor. The weight of the instrument is sufficient to keep all abdominal contents back and the suturing of the peritoneum proceeds in the usual way, the peritoneum being picked up and held for suture by the usual clamps. When the wound is closed, except for the setting of the last stitch, the assistant simply gives a slight pull on the end of the retractor, when it closes as shown in Figure 2. The end of the closed blades can be retained in the angle of the wound until the passing of the last suture and formation of the knot, when it is removed and the knot tied.

The pictures show the instrument about one-third the actual size, it being 8 inches long and 3 inches across the outspread blades, when they are overlapping edge to edge. Of course the size of this retractor may be varied by altering the length and breadth of the blades.

It has been in practical use for some time and answers the purpose better than any I have yet seen devised.

99 North Franklin Street.

A SIMPLE TOURNIQUET USED IN GIVING SALVARSAN INTRAVENOUSLY

THOMAS F. LAURIE, M.D., AUBURN, N. Y.

This simple and useful tourniquet consists of parts from a sphygmomanometer (Riva-Rocci). As may be seen from the illustration the parts used are the arm band, the inflating bulb and the relief cock, all connected by rubber tubing.

I present this more for those who are accustomed to giving salvarsan or neosalvarsan in their offices with no help except that which can be given by the patient. My experience has been that rubber tubing wears out very soon by repeated boiling and use; pressure has to be maintained for a longer

Tourniquet: A, arm band; B, inflating bulb; C, relief cock.

period than is necessary with this apparatus and after the needle is inserted into the vein it is often folly to let go of it to release the tourniquet. I have also found that it is difficult for the patient to release it with one hand. Bandages and like materials are not good for the same reason and also on account of their inelasticity.

It is easy with this apparatus, after one has everything sterilized, including the hands, to request the patient just before inserting the needle into the vein, to inflate the arm band by means of the bulb. Then, when the fluid is ready to flow, it is a simple matter for the patient to release the pressure by pressing the relief-cock with his free hand.

15 Grover Street.

Resistance of the Bladder to Tuberculosis.—The bladder offers considerable resistance to attack by the tubercle bacillus, even when the mucous membrane is injured, as shown by experiments. Rovsing has demonstrated that tubercle bacilli, injected into the bladder and allowed to remain, often fail to produce a lesion. This explains how it is that in many cases of tuberculous nephritis the bladder remains healthy. But if other pyogenic organisms, and especially those which decompose urea, are present, the resisting power of the mucous membrane is greatly weakened, and secondary infection is almost certain to occur.—David Newman, M.D., *Glasgow. Med. Jour.*, October, 1913.

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Therapeutics

INFANTILE CONVULSIONS

Although the occurrence of convulsions is only a troublesome symptom of an underlying condition and, therefore, an entity, still the issue is of such importance that active means must many times be taken for their suppression, and prompt treatment must prevent, if possible, their recurrence. Prevention presupposes a diagnosis of the cause. The predisposition to convulsions which occurs in infants and young children is manifestly because of the ease with which their central nervous systems may be inordinately excited. This is shown by the fact that the conditions which frequently cause convulsions in young children may not cause them in an older child. About 75 to 80 per cent. of all infantile convulsions occur under the third year of life, and almost all (unless epileptic) occur before the child is five years old. Nearly 50 per cent. of all infantile convulsions occur during the first six months of life, nearly 25 per cent. before the end of the first year, not far from 25 per cent. during the second year, and in a few instances they occur as late as the fourth or fifth year.

Heredity seems to play a large part in the frequency of the convulsive seizures. The child of neurasthenic, hysteric and neurotic parents seems to be predisposed to convulsions. Healthy children from healthy parents rarely suffer convulsions, unless from some acute cause. If births are too frequent, the later children, even of healthy parents, are more or less predisposed to convulsions, because of their lessened vitality. The probability of convulsions in an artificially fed child is greater than it is in one who is breast-fed or who receives properly modified cow's milk.

Chronic, debilitating diseases, such as syphilis, tuberculosis, scurvy, anemia (whether from hemorrhages or from lack of nutrition), and rickets, especially, are frequent causes of infantile convulsions. They are also commonly caused by gastro-intestinal disturbance, perhaps an acute indigestion, with colic, vomiting, diarrhea, and more or less sudden absorption of toxins; or a chronic indigestion with a constant absorption of irritant products. In children affected by chronic intestinal disorder there is more or less emaciation and debility. In considering rickets as a cause, perhaps the underlying condition—some disturbance of one of the internal secreting glands, or improper food—may, through the debility so induced, result in convulsions, either from local irritation or toxic absorption. Convulsive movements such as slight muscle rigidities or mild laryngeal spasms often occur without intensification into a general convulsion. Sometimes this condition becomes a tetany.

Irritation of the gums during dentition is not as frequent a cause of convulsions as it once was thought to be, and the fact should be generally recognized that teething, as such, causes neither convulsions nor infantile diarrhea; but, if there be a swollen, red, edematous gum over a tooth that is about to erupt, it may be the cause of a convulsion, and should be lanced.

Intestinal worms probably do not cause infantile convulsions, but in producing active intestinal indigestion they promote the absorption of irritant toxins.

Besides the pain caused by inflamed gums, pain produced either by an inflammation in the ear, or by some other acute inflammation in the head, may be the cause of convulsions. Acute pain anywhere may cause such spasmodic crying and contractions of the muscles that congestion of the brain and a convulsion will result. Obstructive adenoids in the nasopharynx seem at times to be a cause of convulsions.

Irritation from a very much elongated and almost impervious prepuce has been a cause.

The statement has many times been made that the high fever incident to an acute infection frequently causes these diseases to be ushered in by a convulsion. While such convulsions in young children are not uncommon, still they can hardly be said to be frequent, and although they have been likened to the chill with which infections in older children and adults begin, they should not often be so considered. A convulsive onset in such acute infections as scarlet fever, diphtheria and measles is infrequent.

Acute lung congestion, as in pneumonia, may produce preliminary convulsions in very young children. Meningitis in any form presumptively induces convulsions somewhat more frequently in children than in adults.

Whooping-cough also may cause cerebral congestion and even meningeal hemorrhage sufficient to occasion convulsions, though a real apoplexy with paralysis from this disease has not occurred.

Convulsions that occur in a child soon after birth are often the result of instrumental delivery, and may be due to the abnormal pressure consequent on some displacement of the cranial bones. Convulsions from this cause may be frequent and for some time persistent, or they may soon cease. The condition is always serious, for there may be some hemorrhage into the meninges or the brain tissue, with an associated paralysis.

The relationship of infantile convulsions to epilepsy should always be noted. A considerable percentage of cases of epilepsy in children and a tangible percentage of cases of epilepsy in adults can be shown in which infantile convulsions have occurred. A careful study, therefore, of the frequency and the character of the convulsive attacks in young children may show that the child is suffering from epilepsy, and the cause of the epilepsy must be sought.

TETANY

Although tetany was first noted and mentioned about 1830, it was almost lost sight of as an entity until about 1890, and since this date, more and more frequently, the condition has been noted and its relation to the internal secreting glands investigated.

Without discussing the history of these investigations, it will be sufficient to say that MacCallum, Voegtlin, Halsted and others have shown that the parathyroid glands are essential to health, and that their removal will cause convulsions or tetany, and later death. It was long thought that to remove the thyroid would cause these convulsions, but this effect was principally because the parathyroids were removed at the same time. MacCallum discovered that the convulsions could be stopped by feeding parathyroid glands or extract, and Halsted, by the transplantation of parathyroid gland tissue, secured the same result. MacCallum also showed that the administration of calcium salts would stop convulsive movements in animals from which the parathyroid glands had been removed. It seems established, then, that parathyroid secretion either detoxicates some product of metabolism, or that its relationship to calcium prevents the loss of calcium to the body; that calcium is a nervous sedative, or at least in its abnormal absence the nervous system is hypersensitized, so that hyperexcitability occurs and the so-called condition of "spasmophilia" develops.

While it has not yet been shown that all or perhaps even many cases of tetany can be attributed to hyposecretion in the parathyroid glands, still some necropsic find-

ings have shown, in children who have had tetany and convulsions, that there were hemorrhages into the parathyroids, which interfered with their function. It seems quite likely that some cases of tetany and perhaps of infantile convulsions are due to disturbance in the parathyroid glands. It has been shown by some investigators that young infants suffering from spasmophilia and later proved to have some pathologic condition of the parathyroid glands, have evidenced during their period of illness a hypersensibility to the galvanic current. A clinical determination of the border-line between normal and abnormal sensibility to electric stimulation is, of course, difficult. It has long been known that sufferers from hypersecretion in the thyroid, especially as in Graves' disease, have an increased sensibility to electric stimulation.

When the parathyroids are removed and the animal is not allowed to die of intoxication calcium is not normally deposited in bone structure as has been shown in an examination of the teeth. We may, therefore, assume that parathyroid disturbance means calcium disturbance, that some instances of infantile tetany and convulsions are due to disturbed calcium metabolism, and that these convulsive movements may at times be stopped by the administration of calcium. A careful study of the food of infants in which this condition of spasmophilia is present, has shown many times that the food was poor in calcium, namely, that calcium starvation is a distinct cause of these conditions.

Dr. Clifford G. Grulee[1] of Chicago has published a suggestive article on this subject. He states that in 1905 Finklestein observed that an irritating substance prevalent in the whey of cow's milk could cause convulsions. This statement seems to have been confirmed by cases described by Grulee.[2] After he became convinced that a food consisting of a carbohydrate combined with the curds of milk the whey of which had been discarded, was relatively non-irritating in these cases, he attempted to discover by experiments on animals and careful observations on infants what the particular substance was in the whey which produced the irritating symptoms.

He based his experiments on the hypothesis that calcium and magnesium salts tend to allay nervous irritability, while sodium and potassium salts increase it; that, when there is a relative increase of calcium and magnesium over sodium and potassium salts, nervous irritability should decrease, and when sodium and potassium salts are increased relatively to calcium and magnesium, that nervous irritability should increase. Nervous irritability in infants and in animals is most accurately estimated by electric reaction, especially to the galvanic current. It was impossible, however, in his animal experiments to draw any definite conclusion as to why the tendency to tetany in infants is so markedly reduced when the whey is removed from the food.

TREATMENT

If the little patient is in a convulsion, or convulsions occur frequently, it is of prime importance, both for the infant and for the parents, that the seizures be immediately stopped; and, of course, there is nothing more efficient and perhaps more harmless than the administration of chloroform. It takes but little chloroform to quiet the small patient, and unless chloroform must be used continuously, it probably leaves few, if any, after effects. If the convulsions recur as soon as the child comes from under the anesthetic, a hypodermic of morphin, not more than 1/30 grain for a child a year old, seems generally justifiable in convulsions (although this is a large dose) and may prevent the necessity of the frequent use of chloroform.

It is self-evident that the child must be treated symptomatically; the convulsions must be stopped, whatever the cause may be. Sometimes convulsions will cease, temporarily at least, when the child is placed in a warm bath, that is, a bath a little warmer than the temperature of the child. It should not be hot and certainly should not be cold. Cold applications to the head at the same time may be used, if deemed advisable. The object is to bring the blood to the surface of the body, to dilate the blood-vessels in the abdominal cavity, and thus to relieve the cerebral congestion and perhaps irritation. If the child has high fever, as soon as it is taken out of the warm bath an ice-cap may be applied to the head more or less intermittently, and with the precautions usual for a young infant. Persistent use of cold on the head, especially in the occipital region, is inadvisable for an infant, as its tendency is to depress the medullary centers.

Rectal injections of chloral are often used, the dose depending on the age of the child, but may be larger than should be given to the same child by the mouth; namely, from 0.20 to 0.30 gm. (3 to 5 grains) may be used.

Again, symptomatically, after the convulsions have ceased, bromids may be administered for a day or two, if there seems to be great nervous irritability or excitability. The dose should be graded according to the results; some children require a considerable amount of bromid to quiet them. A safe method is to administer 0.05 gm. (about 1 grain) every three hours, stopping if the child is drowsy.

As soon as the emergency indications have been met the physician should carefully study the condition of the child, primarily for digestive disturbance, and secondarily for all possible reflex causes. Generally, whatever the cause, a good cathartic (best castor oil) should be administered as soon as possible, or an enema may be advisable. Not infrequently there will be a history that the child has eaten something especially disturbing, and an emetic such as ipecac, or a stomach washing, may be indicated.

The child's previous diet should be carefully analyzed, looking toward the possibility of its having been deprived of nutriments that are needed for its welfare; insufficient and improper nutrition can certainly predispose to a hyperexcitability of the nervous system and to convulsions, and the indication for a radical change in diet is often evident.

Grulee reports several cases of convulsions which came under his care in which the convulsions quickly ceased after the whey had been removed from the cow's milk. Sometimes the convulsions recurred when whole milk was again given to the children. The whey-free milk treatment was supplemented in several instances by a thorough clearing out of the intestinal canal, and in other instances by the administration of chloral by the rectum. His favorite food mixture for children consists of curds of 30 ounces of whole milk with 40 ounces of arrowroot water. The amount of the curds should be diminished for younger children. Saccharin is sometimes added to the mixture, and in some cases dextrimaltose. Grulee found not only that the convulsions diminished and ceased, but also that the electrical irritability usually diminished.

That the addition of sodium and potassium salts, corresponding in quantity to those contained in the whey,

1. Grulee, Clifford G.: Dietetic Treatment of Convulsions and Allied Conditions Occurring in Infants, Am. Jour. Dis. Child., March, 1913, p. 205.
2. Grulee, Clifford G.: Arch. Pediat., 1912, xxix, 24.

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did not regularly increase the electrical irritability Grulee thinks is due to the fact that the forms in which the sodium and potassium were given, that is, sodium chlorid and potassium chlorid, either were not readily absorbed from the gastro-intestinal canal, or these salts are not in themselves the irritating factors.

He sums up the results of his experiments and observations as not confirming the hypothesis that the increased electrical irritability in spasmophilia is the result of a disturbance of calcium and sodium equilibrium.

If a child shows signs of tetany, however, and certainly if it shows rickets, calcium is indicated, as well as food that contains calcium. Calcium may be given as lime-water, as calcium lactate or as calcium glycerophosphate. Calcium lactate 0.05 gm. (about 1 grain) may be given three or four times in twenty-four hours; or 0.10 gm. (about 2 grains) of calcium glycerophosphate may be given in the same frequency. Calcium lactate should be dissolved, calcium glycerophosphate should be given as powder, and either may be administered in milk.

If any one of the many reflex causes of convulsions has been diagnosed, the treatment that must be instituted is self-evident.

If it is decided that the trouble is a beginning epilepsy, the treatment should be directed toward removing any possible evident cause. If no tangible cause can be discovered, bromids should be given more or less continuously to prevent, if possible, the epileptic habit. It is not the object of this article to present the exact treatment of epilepsy.

GONORRHEA

As no method of treating this disease is the sole method approved, it behooves every physician who treats gonorrhea to study every thoughtful paper on the subject. Dr. George A. Wyeth[1] of New York has presented several recommendations for the treatment of this disease.

Wyeth thinks it is always possible to shorten, and sometimes practically to abort, acute gonorrhea. He believes that a smear of the discharge should be taken each time the physician sees the patient, and that the microscope should determine the treatment: (*a*) the microscope will show if true gonorrhea is present; (*b*) as long as gonococci are present in any number the discharge should not be checked by astringent injections, as they inhibit the local leukocytosis and phagocytosis, which constitutes Nature's method of antagonizing the gonococci and preventing their migration to other parts of the body.

Gonorrhea can be cured, Wyeth thinks, if the center of the infection be definitely located and that region scientifically treated. From his pathologic investigation of acute gonorrheal inflammations, he believes that the process is not early distributed over the entire surface of the urethra, but is predominantly lacunar and periacunar, and also that phagocytosis is the main defense made by Nature against this germ. He finds that the gonococci on the surface of the epithelium are generally intracellular, while many in the lower strata of the mucous membrane are extracellular; when the discharge shows most of the gonococci to be intracellular the disease yields more readily to treatment and is less stubborn than when many of the gonococci are extracellular. The conclusion arrived at, therefore, is that leukocytosis and the purulent discharge should be encouraged rather than checked, as the greater number of leukocytes in the discharge the greater the likelihood that the gonococci are intracellular. Wyeth uses silver preparations in weak solutions for injection, but the method is best studied in his paper.

1. Wyeth, George A.: New York Med. Jour., June 14, 1913.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

DIGIPOTEN.—Digipoten consists of the digitalis glucosides in soluble form, diluted with milk sugar to give the preparation an activity approximately equal to that of digitalis of good quality. Digipoten is standardized by the "one-hour frog" and the guinea-pig methods, and it is adjusted to an activity of approximately 1,400 heart tonic units (of Houghton). It contains from 0.3 to 0.4 per cent. of digitoxin as determined by a modified Fromme method.

Actions and Uses.—Digipoten has the same activity as digitalis leaf of good quality and may be used like the official drug with respect to indications and dosage.

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Digipoten is prepared by extracting digitalis leaves with diluted alcohol, the alcohol being removed by distillation in vacuo, the resulting extract filtered, and the filtrate precipitated with tannin; the precipitated tannates of the glucosides are washed with water, and the glucosides are liberated in the usual manner. The resulting dark green brittle powder, which has an activity of about 12,000 to 16,000 heart tonic units, is triturated with sufficient milk sugar to reduce the activity of the finished product to the standard.

Digipoten is a pale green powder, possessing the characteristic bitter taste of digitalis. It is soluble in water and in 25 per cent. alcohol.

On ignition it leaves no appreciable amount of ash. If 0.1 Gm. of digipoten be dissolved in 2 Cc. of glacial acetic acid containing a trace of ferric chlorid and underlaid with concentrated sulphuric acid, there appears at first a brownish zone, changing to red, and finally the upper layer changes to a dark green (Digitoxin).

In addition to the biological standardization the digitoxin content of digipoten is determined by the following modified Fromme method: 30 Gm. of digipoten are placed in a flask of 500 Cc. capacity, and 270 Gm. of water and 10 Gm. of lead acetate are added and allowed to macerate for three hours with constant agitation. The precipitate is allowed to settle and 207 Gm. of the clear liquid is decanted upon a filter of a diameter of 18 Cm. The excess of lead is removed from the filtrate by the addition of 5 Gm. of sodium sulphate dissolved in 6 Gm. of water. The precipitate is allowed to settle and 164 Gm. of the clear fluid, representing 15 Gm. of digipoten, is passed through a filter. This filtrate is transferred to a separatory funnel of a capacity of 250 Cc. and 4 Cc. of ammonia water is added, after which it is extracted with four to five portions of 45 Cc. each chloroform, the successive extractions being filtered through a chloroform-wet filter into a tared Erlenmeyer flask. The chloroformic extracts are then evaporated on a water bath to a constant weight. The crude digitoxin is dissolved in 4 Gm. of chloroform and the solution is poured into a mixture of 10 Gm. of ether and 70 Gm. of petroleum ether with constant agitation. The resulting precipitate is collected on a filter of 5 Gm. diameter and washed with a small amount of petroleum ether. The washed residue is dissolved in hot absolute alcohol and rinsed into the tared Erlenmeyer flask previously used. The alcohol is evaporated on a water bath and the residue is dried to a constant weight at a temperature of 90 to 100 C. and the weight of the purified digitoxin is determined.

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SATURDAY, DECEMBER 6, 1913

ALIMENTARY TOXEMIA—INTESTINAL AUTO-INTOXICATION

The interchangeable expressions, "alimentary toxemia" and "intestinal auto-intoxication," are employed with a degree of facility in medical literature that might lead one to suppose they designate some very definite clinical entity or easily recognizable group of symptoms. Indeed, the words have already found application in reading-matter that appeals to an even wider circle; for they enter into the advertising columns which are edited for the perusal of the layman by the exploiter of proprietary remedies.

Let us frankly admit at the outset that much, if not most, of what has been written or spoken on the subject is largely based on figments of the imagination or uncritical endeavors to provide a seemingly comprehensive general explanation for a variety of unrelated common symptoms of human malaise. In the midst of all this ignorant and pseudoscientific argument it is refreshing to hear of the review of the real status of the question of alimentary toxemia and of the frank exposure of the limitations and inconsistencies of current knowledge of a hazy topic which was made by some of the speakers in a recent symposium on this theme before the Royal Society of Medicine in London.[1] Dr. W. Hale White, in particular, called attention to the fact that much that is maintained in reference to alimentary toxemia really is inadequate and unjustified. Presumably what is usually meant by this term is an illness due to poisons absorbed somewhere in the alimentary canal and produced within the gastro-intestinal tract by microorganisms resident therein. Yet no one who accepts this point of view can explain what these poisons really are nor can he identify the bacterial organisms which are charged with pernicious chemical activity. As Hale White notes, the expression "alimentary toxemia" at once shows our ignorance, for it is unscientific to group cases of poisoning according to the point at which the poison entered the body. The nature of the poison should be the distinguishing factor; "it is a minor matter whether our murderer comes in at the window or at the door."

While protesting against the current practice of talking learnedly where ignorance still reigns supreme, we need not despair of decided progress in the future. Hitherto it has been indol and its derivatives, phenols, a few diamins like putrescin and cadaverin, hydrogen sulphid, and a few other compounds—but particularly the first group—which have had to bear the burden of the charge of specific toxicity in the discussions on auto-intoxication. Research in the field of biochemistry is, however, continually adding new possibilities in this direction. The production of highly active substances like beta-imidazolethylamin from histidin in the alimentary tract is an illustration. There are, without doubt, numerous other pharmacologically potent compounds derived from our food-fragments by bacterial reactions which proceed beyond the limitations of the reaction of the ordinary digestive enzymes.

It is by no means unlikely that what is termed alimentary toxemia may in some cases really be hepatic disease—that the failure of the liver to protect the organism is the real fault. Dr. Saundby insists that under physiologic conditions the natural protective agencies in the alimentary system are sufficient to shield the body from the dangers of poisons formed therein or those introduced with the food, provided that these are not overwhelming in amount. Such morbid symptoms as arise may well result from a breakdown in the protective machinery in consequence of functional defects or pathologic changes in the organs concerned. When we ask, however, what the latter may be, no reply that extends beyond the suggestion of analogies is forthcoming.

Of course, no discussion of alimentary auto-intoxication is complete without reference to intestinal stasis as a predisposing cause. What symptoms and conditions have not been ascribed to this? Cystic disease of the breast, cancer, duodenal ulcer, Bright's disease, exophthalmic goiter are actual examples. As a matter of fact infrequent evacuation of the bowel is consistent with perfectly good health and longevity; and simple constipation—that is, mere fecal retention—by no means necessarily favors the production of poisonous substances or the occurrence of pathologic symptoms. If, however, alterations in the wall of the alimentary tract have taken place many symptoms may result from fecal stasis; and it is perhaps to such inflammatory consequences that objectionable accompaniments of constipation may be attributed. We are favorably impressed by the remark of Saundby that so long as the several organs concerned are structurally healthy, the intestinal contents are practically outside the body and are powerless to injure us. Infrequent or incomplete evacuation of the colon is not of itself necessarily a cause of disease.

If the ill health involved in the conditions under discussion were due to special bacteria the best treatment would be to prevent the ingestion of the offenders. Owing to our ignorance of the cause this cannot be done. Nor does the use of so-called intestinal antiseptics offer any promise of success. The widely proclaimed sour-milk

1. Proc. Roy. Soc. Med., 1913, vi, Supplement, Part 1.

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therapy has sought to prevent the formation of the medium in which the bacteria grow; but the outcome is frankly uncertain if not actually disappointing. Where there is delay in emptying the bowel, a dozen and one devices, from the simplest aperient to the most complex hydropathic treatment, are available, and some surgeons like Arbuthnot Lane have been trying to limit the hypothetic formation of hypothetic poisons in the intestine by preventing delay of evacuation through the short-circuiting or removal of the large bowel. Here we cannot refrain from quoting the words of Hale White: "When these cases are reported we are always assured that all medical means had been adopted without benefit, but we are never told what the medical means were. . . . A suspicion comes to one's mind sometimes that perhaps some surgeons do not know all the means the physician has at his command for the treatment of delayed action of the bowels."

MAN, MONKEY AND THEIR PARASITES

The so-called specific immunity reactions which have been so extensively investigated in recent years have emphasized some unusual relationships among animal species. These have expressed themselves, for example, in the precipitin and hemolysin reactions. The serum of an animal immunized against human blood gives also a precipitate in the serum of the anthropoid apes. Similarly the hemolysins specifically developed to lake human blood-corpuscles act on those of the man-like apes. The reaction at once ceases, however, in the case of the ordinary monkeys.

A recent writer remarks that embryology, paleontology and comparative anatomy may have taught the same general facts, but it comes as somewhat of a shock to many to realize that man's kinship to the monkey goes so far as a "blood relationship." Few persons are as yet aware of the fact that this relationship of man by no means applies to all of the monkey tribe, but only to that group including such examples as the chimpanzee, orang, gorilla and gibbon, and not to the more common monkeys of the *Macacus* type. This subtle distinction shown in the various serum reactions is of unusual scientific interest. V. L. Kellogg, entomologist of Leland Stanford Junior University, has furnished a new and somewhat startling kind of evidence of the relationship of man to the anthropoid group of apes in distinction from others of the monkey tribe. It is based on the contention that the host distribution of the wingless, permanent skin parasites (ectoparasites) of the higher animals, including birds and mammals, is governed more by the genetic relationships of the hosts than by geographic range or any other environmental condition.[1] If this is correct the kinds of permanent ectoparasites found on individuals will indicate in some measure the genetic relationships of the hosts.

According to Kellogg[2] the wingless, permanent ectoparasites of birds and mammals are of two groups, namely, the biting lice, *Mallophaga*, feeding on the feathers and hair, and the sucking lice, *Anoplura*, feeding on blood. Certain mites (*Acarina*) may perhaps also be assigned to this category of permanent wingless parasites, but the fleas cannot be, for they hop on and off their host, and all their immature life is non-parasitic and wholly apart from their future hosts. The *Mallophaga*, of which nearly two thousand species are now known, occur chiefly on birds, while the *Anoplura*, of which less than a hundred are known so far, are confined to mammals. No biting lice have been found on man or on any anthropoid.

Sucking lice of species representing two genera, *Pediculus* and *Phthirius*, occur on man. Representatives likewise have been found on the anthropoid gibbons and chimpanzee. The other tailed monkeys which, in contrast with the man-like apes, are shown by the "blood relationship" tests to be unrelated to man, harbor parasites of entirely distinct genera. The resemblance of man to his simian cousins crops out in this most unexpected fashion.

How these remarkable affinities of host and parasite are preserved is not easy to explain. The California entomologist responsible for the facts recited states that he has often become, in the course of collection, the temporary host of various bird- and mammal-infesting biting lice, but these parasites all seemed as anxious to escape as he was to have them. And they did escape; or, if they did not, they died in a few hours. There is, indeed, an extraordinarily exact fitting of parasite to host in the case of biting and sucking lice. It is hard to understand—to quote Kellogg—of just what details this fitting consists, beyond the more obvious structural and morphologic differentiations. The essential fitting is far more subtle. It is a fitting to the host's physiology as well as to its epidermal structures.

THE STATUS OF THE BOUILLON CUBE

A survey of the advertising literature in which catch-phrase display-lines form a conspicuous feature reveals the novel expression "bouillon cubes" among the more recent innovations. We assume that the thinking part of the purchasing public, and above all the physicians, have by this time been educated into an appreciation of the limitations of extract of meat as a source of nutriment to the human body. There was a day when, owing to the domination of Liebig's teachings and the influence of his honored name, beef extract was looked on as embodying the very essence of nutrition. The fact that the nitrogenous extractives of muscle tissue furnish to the organism neither constructive material nor energy in any noteworthy amount does not, of course, impugn their efficiency in vigorously exciting the secre-

1. Kellogg, V. L.: Distribution and Species-Forming of Ectoparasites. Am. Naturalist, 1913, xlvii, 129.

2. Kellogg, V. L.: Ectoparasites of the Monkeys, Apes and Man. Science, 1913, xxxviii, 601.

tion of the gastric juice, promoting the flavor of foods into which the extract of meat may enter and in rousing the appetite. We must never lose sight of the fact that this is their true function in both health and disease. They are flavoring agents and, in the words of a well-known writer on dietetics, "their proper place is in the kitchen and not by the bedside."

However widely this fact may deserve appreciation and even seem to receive it at present, the American public is a gullible one. From the claim that extract of meat — to quote some actual representations of misbranding — is "a concentrated food that represents the nourishing constituents of fresh beef," or "a combination of all the strengthening and stimulating properties of prime lean beef," or "the most perfect form of concentrated food known," it has been a short step to another suggestive type of advertising. Now it is to the category of the "brain-fag" relievers that the extract of meat in its up-to-date guise of bouillon cubes has been consigned by the present-day exploiter. Undue claims of nutritive superiority are no longer made; but the meat extractives have joined the brigade of ready-relief specifics which are intended to enable the jaded worker to finish his day's task. At any rate the rôle of the bouillon as stimulant alone is implicitly recognized in this latest enterprise.

Without entering here into the physiologic or dietetic merits of the propaganda for beef-tea drinking, we may nevertheless call attention to some economic fallacies involved in the use of bouillon cubes and point out some unexpected features of their composition.[1] Common salt is the foremost constituent, contributing from 49 to 72 per cent. of the total weight of the cubes of ten leading brands manufactured in the United States and Germany last year. The amount of real meat extract present ranged from 8 per cent. in the poorest to only 28 per cent. in the best brands marketed. It is true, to speak in all fairness, that most of these cubes have no advertised claim to be concentrated beef broth or essence. Many persons, however, believe them to be so, little realizing that cubes which contain about two-thirds salt and never more than one-third meat extract are an expensive form of securing the flavor and other virtues of the latter.

Home-made meat broth or meat-and vegetable soups contain more meat extractives and real nutrients than the commercial preparations, and they are cheaper than the bouillon or soups prepared from commercial cubes, extracts or juices.[1] This fact need not, however, condemn the popularity of a harmless ready-to-use expedient in the hasty and convenient preparation of a cup of palatable bouillon. One might as well argue that the nutritious ready-to-eat cereals are to be rejected because they are more expensive and, in the taste of many, more palatable than the old-fashioned oatmeal which requires a somewhat laborious culinary treatment. Our contention is that the public, and the physician in particular, should be educated to know precisely what is involved when claims pertaining to diet as well as to drugs are made to attract a purchaser. They can then intelligently count the cost, and balance convenience and elegance against personal effort and economy.

1. Those who are specially interested in this topic will find additional details in a publication by Cook, F. C.: Bouillon Cubes: Their Contents and Food Value Compared with Meat Extracts and Home-Made Preparations of Meat, Bull. 27, U. S. Dept. Agric., Washington, 1912, p. 7.

WHERE IS SUGAR BURNED IN THE BODY?

There can be little doubt that the chief seat of the destruction of sugar, the form in which the carbohydrates are finally utilized in the body, is located in the musculature. Energy is immediately needed there and there it is doubtless liberated in the course of the metabolism of the carbohydrates. Older experiments of Chauveau and Kaufmann have indicated that the venous blood flowing from a contracting muscle contains less sugar than the arterial blood flowing to it. A similar consumption of glucose, the normal blood-sugar, has been described as occurring in the isolated contracting mammalian heart when fed with Ringer's fluid containing a small proportion of the carbohydrate in question. We have on a previous occasion pointed to the observations of Knowlton and Starling[1] that a heart, fed with blood and performing a normal amount of work, is able to use up sugar, the consumption of the latter amounting to about 4 mg. per gram of muscle per hour.

The foregoing considerations, though plainly involving the muscle in the metabolism of the carbohydrates, do not elucidate the precise conditions under which the sugar utilization really takes place. Some years ago Professor Cohnheim[2] of Heidelberg offered evidence which he believed demonstrated that the muscles contain an enzyme which can facilitate the combustion of sugar. According to Cohnheim it was not present in the muscle in a preformed state, but required an activator which was furnished by the pancreas. Experiments *in vitro* with muscle tissue-juice and sugar, with and without additions of pancreatic extracts, seemed to substantiate this thesis. It was an interesting outlook, since the alleged facts afforded a convenient basis for attractive hypotheses regarding the undeniable rôle of the pancreas in carbohydrate metabolism, in conjunction with the necessary postulates respecting the participation of the muscles.

The subsequent history of this episode, with its contentions that Cohnheim's results were due to contaminations of a bacterial nature, the repetitions by other workers, the successive contradictory announcements of results now positive, now negative, form a spirited chapter in the investigation of tissue function. The complete exclusion of bacteria in experiments on isolated tissues calls for the greatest care and refinement of laboratory tech-

1. Sugar Combustion in Pancreatic Diabetes, editorial, THE JOURNAL A. M. A., Oct. 25, 1913, p. 1539.

2. Cohnheim, O.: Ztschr. f. physiol. Chem., 1903, xxxix, 396; 1904, xlii, 401; 1906, xlvii, 253.

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nic. A recent reviewer, Professor von Fürth of Vienna,[3] while admitting the justification of much of the criticism in this field and inclining to an attitude of skepticism toward the repeatedly reported demonstration of sugar destruction by isolated muscle substance, cannot become convinced that, after all, there is not some active factor involved. We are thus prepared for the latest venture in this field of research. Gigon and Massini[4] at Basel have taken up the problem anew. Again we have the story of extreme precaution in the conduct of the tests, the supreme importance of such precaution having been prominently emphasized through much well-directed criticism in the past. The outcome was positive. Sugar was found to disappear when digested aseptically with fresh comminuted muscle tissue. The loss of sugar was not merely small but pronounced.

Reports of this sort, encouraging the belief that the destruction of sugar under the influence of some thermolabile component of muscle tissue is at length definitely demonstrated, are renewed from time to time apparently regardless of the undisputed fundamental findings of Levene and Meyer[5] which bring the subject into a new light. According to these investigators at the Rockefeller Institute in New York the disappearance of glucose noted in even the most carefully conducted experiments with the various tissue extracts is not due to destruction, oxidation, or "combustion" of the sugar, but merely to its synthesis or condensation to compounds of larger molecular weight which do not respond so readily to the analytic methods commonly employed. These important researches place the alleged use of sugar by the tissues in such experimental trials on an entirely different basis. They cannot be overlooked even though they run counter to the hopes which have so often been raised of a final answer to the question which heads these remarks.

DO THE KIDNEYS HAVE SECRETORY NERVES?

The wonderful adaptability of the kidneys to certain needs of the organism, and the ready response which they show to seemingly minute changes in the chemical environment of their cells and to more remote circumstances that determine the conservation or elimination of water under sundry conditions, inevitably suggest an inquiry into the nature of the renal mechanism. It has been a familiar experience to rely on the nervous system to explain the more subtle regulatory functions of the organism. In the glandular organs, in particular, the rôle of secretory nerves has long been a prominent one. The dependence of the alimentary digestive secretions on the participation of nervous stimuli in many of the secretory manifestations affords a classic illustration of this familiar relationship. The kidneys have been among the last of the glandular organs to resist the attempt to explain their secretory behavior by the assumption of nervous factors. Gland structures like the adrenals, in which the conditions for the demonstration of the direct participation of nerve stimulation are far from ideal, because the measurement of the effect of the conjectured nervous impulses must be a very indirect one, have nevertheless of late given evidence of secretory innervation in the hands of such investigators as Asher, Elliott and Cannon. The thyroids have been under suspicion in respect to a possible nervous control and have not lacked the charge, as yet not satisfactorily sustained, of response to secretory nerves.[1] It has been generally admitted or assumed, however, that the activity of the kidney must be determined primarily by chemical stimuli. The delicate sensibility which it displays in reacting to the slightest deviation from the normal of blood composition, by excreting water or dissolved substances, is thus analogous to the form of humoral regulation on which the efficiency of the "hormones" is supposed to rest.

The local nervous mechanism of the kidneys has been believed to affect their secretory activity in the direction of augmenting or decreasing it solely by corresponding alterations in blood-supply. The widely—and we believe almost universally—accepted belief that the vasomotor mechanism and changes in the vascular supply furnish practically the only way in which the central nervous system can directly affect the secretion of the kidneys has lately been questioned by Asher and Pearce.[2] Through direct experiment by the familiar methods of nerve stimulation they have reached the conclusion that the vagus contains secretory fibers for the kidney, and that the stimulation of these fibers initiates an increased secretion of urine. The elimination not only of water, but likewise of other urinary components is promoted by the intermediation of these vagus nerve impulses. The investigators seek to fortify their contentions by pointing out that the necessary correlated anatomic evidence is not wanting; for Smirnow[3] is said to have demonstrated nerve-endings in the epithelial cells of the urinary tubules.

It is obvious that if the conclusions of Asher and Pearce are substantiated a revision of many existing ideas in reference to renal secretion may be called for. Purely mechanical explanations of diuresis and the action of drugs on the kidneys must be examined in the light of the new evidence.

We may safely assume that a statement of such far-reaching importance advanced by workers well known in the field of physiologic research will receive prompt critical examination, the results of which must be accepted by those who are interested in the theory of glandular functions.

3. Von Fürth, O.: Probleme der physiologischen und pathologischen Chemie, 1913, ii, 327.
4. Gigon, A., and Massini, M.: Muskulatur und Glykogen, Biochem. Ztschr., 1913, lv, 189.
5. Levene, P. A., and Meyer, G. M.: Jour. Biol. Chem., 1911, ix, 27; 1912, xi, 347, 353.

1. Asher, L., and Flack, M.: Ztschr. f. Biol., 1911, lv, 83. Asher, L., and von Rodt, W. E.: Zentralbl. f. Physiol., 1912, xxxi, 223. Asher, L.: Ztschr. f. Biol., 1912, lviii, 274.
2. Asher, L., and Pearce, R. G.: Nachweis der sekretorischen Innervation der Niere, Zentralbl. f. Physiol., 1913, xxvii, 584.
3. Smirnow: Anat. Anz., xix, 347.

Current Comment

HAS THE VIRUS OF VACCINIA AND VARIOLA BEEN OBTAINED IN PURE CULTURE?

The virus of variola and of vaccinia is less sensitive to the action of glycerin than bacteria in general, and for this reason it is possible to obtain an almost pure virus of practically full strength. Prolonged action of the glycerin, however, destroys the virus, but more rapidly at 37 C. (98.6 F.) than in the cold; if kept at from — 5 to — 15 C. (from 23 to 5 F.), glycerinated virus may remain active for years. A consideration of these facts led Fornet[1] to try other sterilizing agents, which, while freeing the virus from bacteria, would permit of its being preserved by other means than freezing. Ether was found to be such an agent, etherized virus remaining sterile and active for weeks after inoculation on various culture-mediums, such as broth, agar, etc. The continued activity of the virus thus treated was tested by inoculation of rabbits, calves and human beings with the usual typical reactions of vaccination. Etherized virus has even been carried through a series of inoculations on broth, beef-serum and agar without apparent loss of virulence, and Fornet concludes that there is hardly any doubt that proliferation must have taken place. He calculates that in the last instance the dilution of the sterilized virus would have reached 1: 1,000 billions if there had been no growth; hence, if Fornet is right, growth without doubt did occur. Examined with the ultramicroscope and in other ways, the supposedly pure cultures of virus show minute structures that appear somewhat as diplococci of unequal size surrounded by a clear zone. Similar bodies were found in "cultures" prepared in the same way with the contents of a small-pox pustule. If these results can be repeated, a great advance will have been made, as there will be opportunity not only to study the virus in pure culture, but also to provide a better virus than now available for vaccination. The principle involved may be applicable to other diseases and will soon be given a thorough trial.

ARSENICAL MYELITIS FROM NEOSALVARSAN

Following the introduction of salvarsan as a therapeutic agent came occasional reports of arsenical poisoning in cases in which it was administered. Many of these were explained as due to overdosage, or to fault in the technic of administration, but ill results occurred which admitted of no such explanation. Gradually neosalvarsan, a compound of arsenic of somewhat more complex molecular structure than salvarsan, has come into use, and experience indicates that it is the safer agent of the two; but neosalvarsan is not without its dangers. Thus Chiari[2] reports a case of myelitis ending in death which in all likelihood was caused by neosalvarsan. The patient was a woman, aged 27, with secondary syphilitic manifestations; she received three intravenous injections of neosalvarsan at four-day intervals, in all 3.3 gm. Immediately after the last injection a scarlet rash appeared, followed by severe vomiting and a few days later by inability to void urine. Six days after the last injection sensory and motor disturbances appeared, progressing to a definite inferior paraplegia. Large, rapidly spreading bed-sores developed, and also a severe cystitis. The condition progressed steadily with severe pains in the legs, diarrhea and anemia, to a fatal termination in six months. Necropsy showed extensive degeneration in the anterior horns and anterior and lateral columns of the cord. In the seventh to ninth dorsal segments the process was so wide-spread that no normal nerve-tissue was discernible in a cross-section of the cord. There was nothing in the clinical history or post-mortem findings which suggested any other explanation of the development of this condition than arsenical poisoning. Chiari cites similar cases and calls attention to the parallelism between the symptoms in these cases and those sometimes manifested in arsenical poisoning from other sources. In salvarsan and neosalvarsan reliance is placed in combinations of arsenic of complex molecular structure. In this form the arsenic is relatively non-toxic, but as in the case of many other compounds, the biochemical agencies of the body may split the complex chemical structures into simpler ones, reducing the non-toxic combinations into products which may be highly toxic to the tissues of the human organism. So long as we are not able to predict with certainty what chemical reactions may take place within the body under various conditions, there will remain more or less risk connected with the administration of drugs so potentially toxic as are these higher compounds of arsenic. For future guidance, all instances of unfavorable outcome after their use should be recorded in detail with great care.

1. Fornet: Deutsch. med. Wchnschr., 1913, xxxix, 1813.
2. Chiari: Ueber eine nach Neosalvarsaninjektionen aufgetretene "Myelitis," Verhandl. d. deutsch. path. Gesellsch., Marb., April, 1913.

OVERCROWDED STREET-CARS

A narrow car; seats filled with persons attempting to read newspapers while the car swings and jolts along its way; aisles jammed with men and women, boys and girls and tiny children, swaying and rubbing, one against the other, coughing and sneezing, pushing and pressing — what a sight for a progressive age; what a sermon for the moralist; what a despair for the student of public health and hygiene! Endless problems are presented by this picture, seen daily in nearly every American city. Most important is the menace to health from the thousands of bacteria, hidden in the throats of diseased men and women, and sprayed directly into a stagnant air, moist and unmoving in the absence of sufficient means of ventilation. Virulent organisms are inhaled into the throats and lungs of tired workers and tiny babes, who form an excellent host for their quick cultivation. The fare for the ride is small, but the cost cannot be estimated in terms of dollars and cents.

DANCING FOR THE AGED

The following newspaper item just received emphasizes the point made in our comment last week regarding the danger for old persons of the newer dances:

Shortly before midnight last night at his home, occurred the death of Dr. ———, who for more than forty years had practiced his profession in this city. His death is all the

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more tragic because a short time before the summons came, he had been with his wife in attendance at a dancing party at Cronkhite Hall, where he had been learning the tango and other new dances. The strenuous exercise, it is thought, somewhat affected his heart, causing his death.

Medical News

CALIFORNIA

New Hospital Assured for University.—The task has now been completed of raising $600,000 in subscriptions for the erection of a new teaching hospital for the University of California. The work of securing the subscriptions was in the hands of Regent William H. Crocker, Dean Herbert C. Moffitt of the Medical Department of the University of California, and Dr. Wallace I. Terry. Plans are now being prepared by Mr. Louis Hobart for this new University Hospital, which will be started next spring on the "Affiliated Colleges" site on Parnassus Avenue, San Francisco, adjoining the present University of California Hospital. Among the principal donors were John Keith of San Francisco, who gave $150,000 in memory of his wife; Mr. William H. Crocker and Mrs. Harriet Alexander, who gave $50,000 each; and Mr. Charles Templeton Crocker and Mrs. Malcolm Whitman, who gave $25,000 each, this $150,000 being in memory of the late George Crocker, who founded the Cancer Research Fund entrusted to Columbia University.

ILLINOIS

Personal.—Dr. George A. Zeller, superintendent of the Peoria State Hospital, has been appointed alienist of the state board of administration, vice Dr. Frank P. Norbury, Springfield, resigned.——Dr. Harry M. Hayes, Peoria, who has been seriously ill at the Proctor Hospital with typhoid fever, is reported to be improving.——Dr. Rockwood Sager, Rockford, is reported to be critically ill at his home.

Health Conditions in Chicago.—The *Bulletin of the Chicago Department of Health*, November 8, reports that the death-rate in the city of Chicago for the ten months of 1913 from all causes was 15.3 per 1,000 as against 13.8 for the same period of 1912. The report states that in nearly all diseases that contribute most heavily to the death-rate increases are shown over the corresponding period of 1912, particularly with reference to the dirty air diseases, influenza, pneumonia and tuberculosis. Scarlet fever showed the largest increase, with a record of 852 deaths for 1913 as against 452 for the same period in 1912, an increase of 400 deaths. During this period in 1913, increases are shown in the number of deaths from measles and diphtheria and the diarrheal diseases of children under 2 years of age. The month of October, however, showed an improvement over the corresponding month of the previous year, except that the typhoid deaths amounted to forty-two as against twenty-two for October, 1912. The narrow source from which a large number of typhoid cases frequently come is illustrated in the typhoid in Chicago. Ten cases were traced to one milk-wagon driver who stayed at work after he fell sick. Twenty-nine cases were traced to one kitchen helper who came to Chicago from St. Louis half recovered from typhoid. To Oct. 1, 1913, thirty-nine out of each 100 cases of typhoid in Chicago had contracted the disease outside of the city.

Chicago

Dispensary Opened.—The Salvation Army has opened a free dispensary at 6 East Seventh Street, where Dr. George Ensminger will be in attendance from 12:30 to 2:30 p. m. daily.

Examination for County Hospital Positions.—Thirty-four physicians on the staff of the Cook County Hospital took the examination for chiefs of the thirteen departments, November 28.

Isolation Hospital Site.—The finance committee of the city council voted November 25 to purchase about 18 acres of land, lying south of the bridewell, for $185,000. The site is to be used for a new isolation hospital and for other municipal buildings.

Small-pox in the Healthatorium.—Once on a time there was a group of men whom Nature had endowed with many muscles and a peculiar conformation of cranium. Having much muscle and a modicum of medical knowledge they founded a school of "physcultopathy" which is a hybrid of uncertain etymology, the significant part being "cult," which has been described by the Chicago Health Bulletin as "a group of individuals who frequently claim as one of their cherished privileges the right to disseminate false information concerning the efficacy of vaccination against small-pox." Now there came to the home of the cult, which was known as the Macfadden Healthatorium, a humble unvaccinated disciple from Idaho. Ten days after he arrived, he came down with small-pox, which was unrecognized as such, having no legal existence under the laws of a Healthatorium. He returned to the school while in a contagious state and now ten other unvaccinated disciples are guests of the isolation hospital. A newspaper clipping continues as follows:

"Dr. Spalding said he held the authorities at the Macfadden school in no wise culpable, but he said none of the patients had been vaccinated.

"At the physical culture school last night students, patients of the sanitarium and employees were nursing arms vaccinated by the health authorities. About seventy-five were vaccinated.

"In the homes of the six patients like precautions were taken. Members of their families were all required to undergo vaccination.

"The healthatorium was in charge of Charles D. King. He showed no alarm over the outbreak.

"A. M. Wood, the manager of the healthatorium, said he felt no cause for alarm."

One of the patients has said that if King and Wood had small-pox, he would feel no alarm. The general conclusion reached is that although a mass of muscle will move mountains, a good vaccination is more powerful in preventing small-pox.

INDIANA

Hospital Funds Secured.—The campaign opened by 200 men of Marion and Grant County, October 14, to raise $40,000 for a new hospital for Grant County, was closed after eight days with a total subscription of $45,005.90.

New Officers.—Twelfth District Medical Society in Fort Wayne, November 5: president, Dr. James W. McKinney Bluffton (reelected); councilor, Dr. Elmer E. Morgan, Fort Wayne.——Eleventh District Medical Society at Peru, October 16: president, Dr. George R. Daniels, Marion; secretary-treasurer, Dr. James L. Gilbert, Logansport (reelected).

New Hospitals.—St. Joseph's Hospital, Ft. Wayne, which has been erected at a cost of $150,000, has just been completed. The building is six stories in height and is in charge of the Poor Handmaids of Jesus Christ.——The corner-stone of the North Pavilion of the Methodist Hospital of Indianapolis was laid by Bishop William F. Anderson, November 26.

Conference of Charities.—The twenty-second annual session of the Indiana Conference of Charities and Corrections was held in Gary, November 17 and 18, and the following physicians were elected to office: vice-presidents, Dr. Kipplinger, Michigan City, and George R. Green, Muncie, and chairman of medical committee, Dr. Charles P. Emerson, Indianapolis.

Personal.—Dr. Walter R. Cleveland has been appointed president of the Evansville Board of Health.——Dr. Martin K. Kreider, Goshen, has been appointed a member of the board of trustees of Clarke Hospital, Elkhart.——Dr. James A. Taylor, Montpelier, has been elected secretary of the newly organized Blackford County Association for the Study and Prevention of Tuberculosis.

Secretaries of Tuberculosis Society Organize.—The organization was perfected in Indiana, October 17, by secretaries of city and county tuberculosis societies. W. D. Thurber of Indianapolis was elected president and C. A. Hartsley, Evansville, vice-president; Mrs. E. B. Connolly Kehrer, Anderson, secretary-treasurer, and Dr. A. L. Ziliak, Princeton, chairman of the executive committee.

IOWA

New Officers.—Southwestern Iowa Medical Association at Burlington, November 20: president, Dr. Coral R. Armentrout, Keokuk; secretary-treasurer, Dr. Edward F. La Force, Burlington. Mount Pleasant was selected as the next place of meeting.

Personal.—Dr. J. B. Gardner, Manilla, is critically ill in the Methodist Hospital, Omaha.——Dr. C. De Witt Rawson, Otley, was seriously injured by the overturning of his automobile, November 13, near Otley.——Dr. W. E. Sanders has been appointed head of the pathologic department of the Methodist Hospital, Des Moines, and Drs. John H. Peck, J. Z. Strawn, Milton G. Sloan, Matthew L. Turner and Nellie S. Noble have been added to the medical staff of the institution.——Dr. Ray R. Kulp, Davenport, fractured his right arm while cranking his automobile, November 10.——Dr. Harry R. Layton, Leon, who has been critically ill, is reported to be improving.

MARYLAND

Musicale Given by Physicians.—A musicale was given at Osler Hall, Baltimore, November 11, by the Doctors' Orchestra and the chorus of the Medical and Chirurgical Faculty of Maryland, for the benefit of the Book and Journal Club. Dr. John Wade directed the orchestra and Dr. B. Merrill Hopkins conducted the chorus.

Personal.—Dr. and Mrs. Curtis F. Burnam, Baltimore, sailed for Europe November 19.——Lieut. John C. Stansbury, M. C., N. G. Md., has been commissioned captain and placed in command of Field Hospital, No. 1, succeeding Major Howard E. Ashbury, made a member of the general staff.——Lieutenants G. Milton Linthicum and Frederick H. Vinup, Baltimore, have been promoted to captaincies and assigned to duty with the Fifth and Fourth Infantry, respectively.

Academy of Science Meets.—The National Academy of Science, after a two days' session at Johns Hopkins University, closed its meeting with a dinner at the Maryland Club, at which Dr. Welch presided as toastmaster. Dr. Simon Flexner, New York City, discussed the causes of infantile paralysis, the experiments made in isolating the germs of the disease and the effects of the virus on monkeys. Dr. Howard A. Kelly made an address on "Radium as a Cure for Cancer."

New Officers.—Medical Association of Harford County at Havre de Grace: president, Dr. J. Lee Hopkins, Havre de Grace; secretary, Dr. Charles Bagley, Bagley.——Medical Society of the University of Maryland at Baltimore, November 19: president, Dr. Albert H. Carroll; secretary, Dr. Edward J. Maldeis.——Washington County Medical Society at Hagerstown, November 13: president, Dr. Daniel A. Watkins; secretary, Dr. Ivan M. Wertz, both of Hagerstown.——Frederick County Medical Society at Frederick, November 12: president, Dr. Ralph R. Browning, Myersville; secretary, Dr. Bernard O. Thomas, Frederick.

Academic Day Exercises.—At the academic day exercises at the University of Maryland and St. Johns College, November 11, the honorary degree of LL.D. was conferred on Geheimrat Privy Councilor, Prof. Adolph Schmidt, of the medical faculty of the University of Halle. Dr. Schmidt was presented by Dr. John C. Hemmeter, who spoke briefly of the achievements of the German professor. The memorial address for Dr. Eugene F. Cordell, eminent as a medical historian and a member of the faculty of the university, was delivered by Dr. Ralph Winslow. After the academy day exercises luncheon was served at the Emerson and the annual alumni dinner was held in the evening.

MASSACHUSETTS

Addition to Hospital.—The Board of Health of Springfield is building an addition to the Municipal Tuberculosis Hospital to be used by nurses. The addition is 21 by 16 feet and one story in height.

State Board Appointment.—Dr. George L. Richards, Fall River, has been nominated by Governor Foss as a member of the state board of registration and medicine to succeed the late Dr. Edwin B. Harvey, Boston.

State Board Approves Recommendations.—The Industrial Accident Board of Massachusetts has notified the Essex North District Medical Society, that it has approved the following recommendations of the medical advisory committee and will apply them as far and as soon as practicable.

1. That a permanent Advisory Medical Committee is necessary.
2. That we consider it inexpedient to have a medical man as a member of the Industrial Accident Board.
3. That the Industrial Accident Board should have a consulting surgeon on whom should fall the duty of detail work in preparation of matters to be laid before the Advisory Committee. Matters in dispute regarding services and fees of physicians should be referred to this Committee for recommendation.
4. That insurance companies be requested to provide suitable blanks for notifications as well as specifications of services rendered by physicians.
5. That Industrial Insurance Companies be encouraged to allow all reputable physicians to render services in industrial accidents provided they are willing to render such services on reasonable basis.
6. That the Accident Board should make arrangements with which the insurance companies should cooperate, that any physician whose bill is in dispute may appear before a representative of the Accident Board within a reasonable distance of his home.
7. That the Accident Board shall provide for medical referees by districts.
8. That fees paid by the companies should not be less than the average minimum fee in the locality in which the service is rendered.
9. That charges up to $50 for major operations are not excessive.
10. That physicians appearing at hearings before the Board shall receive the compensation as provided for under Section 8, Part 3, of the Act.
11. That services rendered by lodge physicians be paid for, provided it is not inconsistent with the rules of the order.
12. That specialists, established and recognized by the profession as such, may receive special rates for their work, provided the case requires special skill.
13. That the ruling previously made by the Accident Board, that "fees should not be charged an injured party whose employer was insured larger than the injured party would be charged were he not insured," should be interpreted to mean that in a given accident the fee paid by the insurance companies for services should not be less than the average minimum fee for similar services in the locality in which said services are rendered.

MISSOURI

St. Louis Leper Escapes Quarantine.—Charles Hartman, declared a leper by the St. Louis Board of Health, has left the leper quarters of the Robert Koch Quarantine Hospital and is believed to be on his way to Mexico.

Exposure of Quacks.—At a meeting of the St. Joseph-Buchanan-Andrew County Medical Society at St. Joseph, October 15, a committee, consisting of Drs. O. G. Gleaves, Pierre I. Leonard and Luther A. Todd, was appointed to make such investigation as is necessary to the exposure of quack physicians, with authority to employ an attorney.

Hospital News.—The new Deaconess Home and Hospital to be erected by the Methodist Episcopal Church in St. Joseph will be five stories in height, and will accommodate five times as many patients as the Ensworth Hospital.——The Sedalia General Hospital was damaged by fire November 11. Five patients were removed from the building and the loss is estimated at $2,000.

Personal.—Dr. John G. Hayden, Kansas City, was operated on recently in Chicago for appendicitis.——The barns of Dr. J. H. Roney and Dr. W. G. Estill, Lawson, were burned, November 10.——Dr. David R. Porter, Kansas City, was the guest of honor at a dinner given by fifty of his friends and pupils to celebrate his seventy-fifth birthday anniversary. Dr. J. F. Binnie served as toastmaster.——Dr. Frank C. Wallace, formerly assistant physician at City Hospital No. 2, St. Joseph, has been appointed city physician of Maryville.——The suit of Dr. H. H. Temple, Kansas City, against the Union Pacific Railway and the Pullman Company, in which $40,000 damages was claimed, has been compromised for $3,500.——Dr. Arthur H. Kelley, Rosendale, was stabbed November 14, and is said to be in a serious condition at the Ensworth Hospital, St. Joseph.——Dr. Amos T. Fisher, Maryville, has been appointed assistant physician at State Hospital, No. 2, St. Joseph.——Dr. Amos A. Freymann, Kansas City, was seriously injured in a collision between motor-cars, November 10.——Dr. George E. Krapf, superintendent of the German Hospital, has resigned and has been succeeded by Dr. C. Emil Simon.——Dr. Charles W. Schery has been appointed assistant city bacteriologist.

NEW YORK

New Officers.—Medical Society of the County of New York, one hundred and eighth annual meeting, November 24: president, Dr. T. Passmore Berens; secretary, Dr. John Van Doren Young, both of New York City.

Open-Air School Nearly Ready.—The new open-air school for Rochester at Cobb's Hill will be ready for occupancy about December 15. The school will accommodate about one hundred pupils, and will have cost about $10,000 when completed and equipped.

Tuberculosis Pavilion Opened.—The east wing of the Children's Tuberculosis Pavilion, Buffalo, has been temporarily fitted up with stoves, electric lights and the necessary plumbing. The building when completed will have cost about $17,000 and will accommodate about forty patients.

Personal.—The health officers of New York State at their thirteenth annual conference, November 20, unanimously indorsed the nomination of Dr. Eugene H. Porter as state health commissioner.——Dr. Daniel W. Nead, medical examiner for the Pennsylvania System, at Buffalo, has been transferred to a similar position at Reading, Pa.——Dr. W. Charles Willis, Central Islip, L. I., has sailed for Europe.——Drs. Ward E. Hunt and J. G. McGillicuddy, Little Falls, have been appointed coroners.

To Make Saratoga Springs a Spa.—The commissioners of the state reservation have sent a letter to all physicians belonging to county medical societies describing the possibilities of Saratoga Springs as a spa and telling of their plans for the development of the State Geyser Park of over 250 acres. An advisory council is being formed to study the conditions at the springs, and suggest methods for the development, and advise with the commission. It is requested that

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each county medical society elect immediately a corresponding member of the council, who shall receive the reports and bulletins issued by the commission and shall communicate to his society the facts concerning the progress of the work and shall present annually a brief paper on the springs and their uses, and that it communicate the name and address of the corresponding member at once to Dr. Albert Warren Ferris. It is also requested that each county society arrange for a special or regular meeting, to be held in December, at which a brief paper on the springs shall be presented by the corresponding member of the council.

New York City

Harvey Society Lecture.—The next lecture will be given December 13. The speaker will be Dr. Rufus Cole of the Rockefeller Institute for Medical Research, who will speak on "Pneumococcus Infection and Lobar Pneumonia."

German Physicians Elect.—The following officers have been elected by the German Medical Society: president, Dr. Gustav Seeligmann; vice-president, Dr. H. Fischer; recording secretary, Dr. M. Rehling; corresponding secretary, Dr. A. Stein, and treasurer, Dr. S. Breitenfeld.

Raising Money for Cripples.—A ten-day campaign is being conducted by Dr. Burr Burton Mosher for the purpose of raising $100,000 for the House of St. Giles the Cripple, which is the only orthopedic hospital on Long Island. It is announced that up to November 29, $71,246 had been raised.

Fined for Milk Adulteration.—The McDermott Dairy Company has been fined $1,000 for adulterating milk. The defense offered by the company was that the adulteration was done by a discharged driver. The court held that this was not an extenuation of the offense as the company was responsible for the acts of its employees.

New Dispensary Now Ready.—The New York Dispensary has just opened its new building in Spring Street. The original New York Dispensary was founded in 1790 at Five Points and has conducted a clinic for many years in Worth Street. The new building is thoroughly up to date and contains in addition to the usual modern equipment two rooms for the use of the social service department.

Gift to New York Diet Kitchen.—This organization, which dispenses pure milk to infants, has just received a gift of 500 shares of Great Northern stock, valued at $63,000, from Mr. and Mrs. Edward Tuck. The income from this fund will be used in maintaining the diet kitchen at 35 West 139th Street. The association had a deficit of $13,000 at the end of the fiscal year, but now sufficient funds are assured to carry on the work.

Motherhood Not to Bar Teachers.—Justice Seabury has rendered a decision in favor of Mrs. Bridget Peixotto, who had been suspended for absenting herself from school duties for the purpose of bearing a child. The court has expressed the opinion that the Board of Education has no right to dismiss a married teacher who absents herself from school to give birth to a child and that any attempt to do so would be against good morals.

Unite to Fight Tuberculosis.—The social service division of the Free Synagogue, the United Hebrew Charities, and the Montefiore Home have joined forces for the purpose of waging war on tuberculosis. A fund of $20,000 has been subscribed with which to begin work and each of the organizations joining in the work will make a further contribution. The Free Synagogue has pledged $10,000 annually to the work.

Anniversary Meeting.—The section on laryngology and rhinology of the New York Academy of Medicine celebrated its fortieth anniversary November 25. An address was made by Dr. Clinton Wagner of London, England, the founder of the New York Laryngological Society, which later became the laryngological section of the Academy of Medicine. Bryson Delavan made an address and presented the section with a bronze tablet.

Personal.—The will of the late Dr. Charles McBurney, recently filed at Stockbridge, Mass., disposes of the greater part of his effects to his children, but to the New York Physicians' Aid Society is given any rights, claims or demands that the testator may have against it.——Dr. William K. Jacobs has returned from Europe.——Dr. Francis B. Hart, Brooklyn, has been appointed coroner's physician for the Borough of Queens.——Dr. John McAllister is reported to be ill with septicemia, the result of stepping on a rusty nail.

Concealed Cocain Stock.—Through the evidence of a 17-year-old girl, Thomas De Lorenzo, a pugilist, has been arrested for traffic in cocain. Twenty-four packages of cocain were found concealed in a chamber underneath the floor of De Lorenzo's quarters. The evidence shows that three thousand ounces of cocain have been purchased during the last six months. The band of which De Lorenzo is the head paid $15,000 for the drug and sold this amount in small lots for approximately $90,000. The defendant was held in $5,000 bail.

Montefiore Home Dedicated.—The new buildings of the Montefiore Home and Hospital for Chronic Invalids at Gunhill Road and Jerome Avenues, were dedicated November 30. A reception was held in the institution by the president and directors from 11 a. m. to 1 p. m. and from 2 to 5 p. m. The medical department of this beneficent institution was organized by Dr. Simon Baruch in 1884. From its original twenty beds, it has now a capacity of 300 patients. Dr. Baruch served as chief of the medical staff for ten years, as consulting physician from 1894 to 1900 and since that time as honorary consulting physician.

Midwives Must Have Diplomas.—At a meeting of the Board of Health October 14, the following resolution relative to the practice of midwives was passed: *Resolved*, That the rules governing the practice of midwifery in the City of New York adopted by the Board of Health Nov. 8, 1907, be and the same are hereby amended so as to read as follows; the same to take effect on and after the 1st day of January, 1914: The applicant must be 21 years of age or upward, of good moral character, and able to read and write. She must be clean and constantly show evidence in general appearance of habits of cleanliness. The applicant must also present a diploma or certificate showing that she is a graduate of a school for midwives registered by the Board of Health of the City of New York as maintaining a satisfactory standard of preparation, instruction, and course of study, but the requirement of a diploma shall not apply to any person who is now or has been hitherto authorized to practice midwifery by the said board.

Reorganization of the Department of Health.—At a meeting of the Board of Health, Oct. 28, 1913, resolutions were adopted effecting a reorganization of the department by which divisions, which started as insignificant items in the work of the department and have grown to importance, become bureaus. The department now consists of the following bureaus: Bureau of general administration, under Eugene W. Scheffer; sanitary bureau, under the sanitary superintendent; bureau of infectious diseases, under Dr. John S. Billings; bureau of child hygiene, under Dr. S. Josephine Baker; bureau of hospitals, under Dr. J. R. Wilson; bureau of laboratories, under Dr. William H. Park; bureau of food inspection, under Dr. Marion B. McMillan; bureau of records, under Dr. William H. Guilfoy. The bureau of infectious diseases will now include the division of contagious diseases, tuberculosis, venereal diseases, veterinary diseases, institution inspection, typhoid fever, nurses and the diagnosis laboratory. The bureau of child hygiene will include midwife and foundling inspection, institutions and day nurseries, medical inspection of schools, employment certificates, infants' milk stations and children's clinics. The bureau of food inspection will comprise the inspection of meats, fish, vegetables and drugs, city and country milk inspection and the inspection of pasteurizing plants. The chief executives of the bureaus will be required to report directly to the commissioner of health and will be held responsible for the conduct of the work and the efficiency of the employes under their direction.

NORTH CAROLINA

Personal.—Dr. P. B. Orr has been elected health officer of the recently incorporated city of West Asheville.——Dr. Thomas S. Burbank, Wilmington, is reported to be ill with disease of the kidneys.

Fire Damages Medical Building.—The early morning fire in the rear section of the Judson Payne Leonard Medical Building at Shaw University, Raleigh, November 8, did damage amounting to about $5,000.

County Bulletin.—The health authorities of Sampson County have issued the first number of the Sampson County Health Bulletin. Dr. Cooper, the county physician, is the director, and the bulletin is intended to teach the prime importance of sanitation.

Monument to Dr. Kerr Unveiled.—On November 13, the monument erected to Dr. Charles Stevens Kerr by his friends and neighbors at Kerr, was unveiled. Eulogistic addresses were made by Mr. W. S. Robinson, Mr. George R. Ward and Dr. John M. Faison.

Get-Together Meeting.—A joint meeting of the councilors of the Medical Society of the State of North Carolina and the State Board of Health was held in Greensboro, November 19, to study methods and devise plans to render more efficient the work of the county medical societies and further to conserve in every way possible the public health interests of the state.

Hospital Notes.—The Corcoran Hotel property, Durham, has been leased by the incorporators of Mercy Hospital, who announce that the institution will open January 1.——The corner-stone of the Wilson Hospital and Tuberculosis Home for Negroes was laid with appropriate ceremonies November 27. The principal address was made by W. S. Rankin, secretary of the city Board of Health.——The Red Cross Society of Wilmington announces the completion and opening on December 1 of its sanatorium for tuberculosis, located 2 miles below Wilmington. The institution can accommodate forty patients.

PENNSYLVANIA

New Officers.—Franklin County Medical Association at Chambersburg, November 18: president, Dr. A. B. Sollenberger, Waynesboro; secretary, Dr. John J. Coffman, Scotland.

Personal.—Dr. Frederick E. McN. Howell has been appointed chairman and Dr. Daniel N. Bertolet, a member of the committee on health and sanitation of the Reading Chamber of Commerce, which has been established to take up the matter of housing and sanitary conditions.

Plan for Care of Dependents.—A constructive program for the care and prevention of dependents in Pennsylvania was announced November 28, by Dr. Charles H. Frazier, president of the Public Charity Association. These plans include a central directing body, such as the State Board of Charities. The recent conference held between the representatives of the State Board of Charities and the Public Charities Association, under the auspices of Governor Tener, was to further the cooperation of the state local authorities in Pennsylvania, for the purpose of making the plans operative and successful. Dr. Frazier discussed the possibilities of cooperation in the care and prevention of tuberculosis.

Honey Impure.—Judge Holland, of the United States District Court, is hearing testimony in a food case considered most important by the government because the outcome may change the present method of labeling honey. The question to be determined is whether or not six cases of honey seized by the federal food inspectors in this city shall be ordered destroyed on the grounds of being adulterated. According to William H. Jenkins, in charge of the food inspection bureau, the honey was shipped by the Excelsior Honey Company, of New York, 1912. It was seized before being delivered, after samples analyzed by government chemists indicated it contained 60 per cent. of added invert sugar.

Philadelphia

Recognizes Long Service.—In recognition of his thirty-three years of service to the city as a health officer, Capt. Charles F. Kennedy, first and only disinfector in the employ of the city in 1880, was given a banquet and reception by about fifty employees of the Bureau of Health, November 20.

Baby-Saving Show Opened.—The Northern Liberties Baby-Saving Show was opened December 3, in the Friends' Neighborhood Guild, Fourth and Green Streets. The show is under the auspices of the Child Federation. It is estimated that 25 per cent. of the mortality in that part of the city is infantile and that the majority of these deaths are preventable.

Mütter Lecture.—The Mütter lecture on Surgical Pathology will be delivered by Dr. Robert C. Coffey, Portland, Ore., in the Thompson Hall of the College of Physicians of Philadelphia, at 8:30 p. m., December 12, on "Chronic Constipation Considered From the Embryologic Anatomical and Experimental Standpoints," illustrated by lantern slides and drawings. After the lecture a reception will be given to Dr. Coffey at the Hotel Rittenhouse.

Seizure of Impure Food.—On November 20, as a result of the work by state and city veterinarians and food inspectors, between 11,000 and 12,000 pounds of fish, game, and poultry were condemned as unfit for food and sent to local fertilizing works, where it was destroyed. The condition of the food products was blamed directly on the abnormally warm weather by the officials. The quantity seized represented shipments from Southern and Western points, valued at several thousand dollars.

Baby Improvement Show.—Almost 600 babies have been registered in the baby improvement contest being held by the Child Federation at their headquarters, Tenth and Bainbridge Streets. Babies showing the greatest improvement in two months will receive prizes of $25.00, $15.00 and $10.00. Babies when entered are given a physical examination, which is repeated the last Monday of the contest, and careful records are made of all data revealed. Normal infants between the age of 1 month and 2 years are eligible. The purpose of the contest is to stimulate greater interest in the welfare of infants and spread hygienic knowledge.

Personal.—Dr. J. Solis Cohen has been elected an honorary member of the Philadelphia Laryngological Society.——Dr. Arthur J. Davidson has been appointed orthopedic surgeon to the Jewish Hospital.——Dr. Charles H. Frazier had conferred on him the honorary degree of Doctor of Science, by Hobart College, Geneva, N. Y., recently.——Dr. Frances J. Heath, who is to teach surgery and anatomy in the Union Medical College, Peking, China, has started for her post of duty.——Dr. William Campbell Posey, who has been seriously ill with pneumonia, is very much better and his complete recovery is expected.——Dr. D. Braden Kyle is seriously ill with pneumonia at his home.

For Greater Efficiency in Hospitals.—A committee of six members of the Philadelphia County Medical Society presented a report, November 26, recommending a system by which it will be possible to increase the efficiency of hospitals in this city, reduce the cost of maintenance and render a greater aid in the prevention of sickness. The members of this committee are: Drs. Edward Martin, Charles Penrose, George E. De Schweinitz, Wilmer Krusen, John D. McClean, Joseph F. Neff, and Robert LeComte. The plan suggested includes a development of community system for hospital social service. The appointment of efficiency at each hospital, the use of uniform methods of accounting, a preparation of statistics, a development of "follow-up" work, by which the progress of patients toward complete recovery may be known after they have left the hospital. There are nineteen hospitals in this city which have one or more social service workers employed, and instead of increasing the expenditure of the hospital this department makes it possible to discharge a patient at the beginning of convalescence. The report further says: "A hospital is efficient if it performs its functions—the care of the sick, the prevention of disease, the research work and the education of doctors, nurses and the public—thoroughly and with the least possible waste of labor, materials and money. We believe that if the hospitals of Philadelphia should make a united effort to discover and eliminate all of the various forms of preventable waste which undoubtedly exist at the present time it would not only reduce the cost, but greatly increase the efficiency of these institutions." Cooperation of the State Board of Charities is urged, especially in getting hospitals to adopt the uniform system of accounting which has been prepared for the committee by W. B. Hadley, chief accountant in the office of the city controller.

GENERAL

Seaboard Physicians to Meet.—The annual meeting of the Seaboard Medical Association, composed of members of the profession in North Carolina and Virginia, will hold its annual meeting in Norfolk, Va., December 9 to 12, under the presidency of Dr. J. E. Rawls, Suffolk.

Duluth and Superior Physicians Meet.—At the Interurban Academy of Medicine held at Superior, November 19, Dr. C. D. Conkey, Superior, was elected president; Dr. C. F. McComb, Duluth, vice-president; Dr. Andres G. Hoyde, Superior, secretary-treasurer, and Dr. Homer Collins, Duluth, censor.

Southern Medical Women Organize.—The Association of Southern Medical Women, dedicated to the furtherance of public health campaigns in the South, was inaugurated, November 18, at Lexington, Ky., as an auxiliary to the Southern Medical Society. Dr. Lillian H. South, Bowling Green, Ky., was elected president and Dr. L. Rosa C. Gantt, Spartanburg, S. C., secretary-treasurer.

Death Abroad.—In addition to the deaths noted by our correspondent, the following is reported: Edward Nettleship, F.R.C.S., Eng., 1870; F.R.S.; eminent as an ophthalmologist; consulting surgeon to the Royal London Ophthalmic Hospital; consulting ophthalmic surgeon to St. Thomas Hospital; one of the founders, surgical secretary and president of the Ophthalmological Society of the United Kingdom; died at his home in Hindhead, October 30, aged 68.

Bubonic Plague and Yellow Fever.—Consul Baker at Guayaquil, Ecuador, reported to the state department under date of

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November 6, that there were 112 cases of bubonic plague in Guayaquil and that yellow fever was on the increase. Under date of November 13, fifty-two additional cases were reported at that point.——Under date of November 12, it was reported that the California State Board of Health had ordered the director of the State Hygienic Laboratory to Kennett, in that state, to investigate two cases of reported bubonic plague.

Bequests and Donations.—The following bequests and donations have recently been announced:

West Philadelphia Hospital, $5,000 by the will of Emily Sheetz, for the establishment of an emergency free bed.

Germantown Hospital, $5,000 by the will of Isabella T. Cambios.

Mercy Hospital, Kansas City, Mo., a donation of $25,000 by J. L. Loose, contingent on the securing of at least $200,000 to be used as a permanent endowment fund for new buildings.

Good Shepherd Hospital for the Insane, Quebec, $20,000; Jeffrey Hale Hospital $10,000 by the will of Hon. Sharples, Quebec.

St. Michael's Hospital, Toronto, $5,776; Hospital for Incurables $2,000, Hospital for Sick Children $3,000; Toronto General Hospital, $5,000 by the will of Eugene O'Keefe, Toronto.

Meeting of the Physicians of the South.—The Southern Medical Association held its seventh annual meeting in Lexington, Ky., November 18 to 20, under the presidency of Dr. Frank A. Jones, Memphis, and elected the following officers: president, Dr. Stuart McGuire, Richmond, Va.; vice-presidents, Dr. J. W. Jervey, Greenville, S. C., and F. H. Clarke, Lexington, Ky.; secretary-treasurer, Dr. Seale Harris, Mobile, Ala. (reelected). Richmond, Va., was selected as the place of meeting for 1914. The following section officers were appointed: Eye, Ear, Nose and Throat—Dr. Homer Du Puy, New Orleans, chairman; Dr. S. Nelson, Memphis, secretary; Hygiene and Preventive Medicine—Dr. R. M. Cunningham, Ensley, Ala., chairman; Dr. W. S. Leathers, University, Miss., secretary.

The American Association of Immunologists.—This society was organized June 15 at Minneapolis, Minn., with forty-one charter members, all of whom have been pupils of Sir Almroth E. Wright of London. The objects of the society are: "To unite the physicians of the United States and Canada who are engaged in the scientific study of immunology and bacterial therapy. To study the problems of immunology, and to promote by its concerted efforts scientific research in this department. To spread a correct knowledge of vaccine therapy and immunology among general practitioners." The officers temporarily chosen are: president, Dr. Gerald B. Webb, Colorado Springs, Colo.; vice-president, Dr. George W. Ross, Toronto, Canada; treasurer, Dr. Willard J. Stone, Toledo, Ohio; secretary, Dr. Martin J. Synnott, Montclair, N. J., and council, Drs. A. Parker Hitchens, Glenolden, Pa.; Oscar Bergbausen, Cincinnati; J. E. Robinson, Temple, Tex.; Campbell Laidlaw, Ottawa, Canada, and Henry L. Ulrich, Minneapolis. The first annual meeting of the society will be held June 1, 1914, at Atlantic City, N. J.

Infectious Diseases.—During the fall the various infectious diseases have been very prevalent throughout the country, in some places small epidemics occurring. Cases of diphtheria and small-pox have perhaps occurred in greatest numbers. For the last week in November diphtheria was reported, among others, from the following places: Hamilton, O., 232 cases; Duluth, Minn., 40 cases, traced to a dairy; La Rue, O.; Hastings, Neb., where one school was closed; Suffield, Conn.; Worcester, Mass.; Antietam Furnace, Md., school closed; La Crosse, Wis., school closed; Detroit, where an antitoxin campaign was urged by the health board; Brenham, Tex., one county school closed; Greencastle, Ind.; Warsaw, Ind.; Waddy, Ky.; St. Paul, Minn., 140 cases during November; one small epidemic was traced to a certain dairy. November 19 the offices of the State Board of Health at Jackson went into voluntary quarantine on account of the discovery of diphtheria infection in the throats of the laboratory staff, caused by the careless sending in of specimens by physicians throughout the state, similarly to the trouble in the state board office in Atlanta, Ga., where a number of cases of the disease occurred, compelling the closing of the office.

Small-pox: At Oklahoma City 12 cases were reported; from Pennsylvania at Johnstown, Altoona, Wilkes-Barre, Reading, Huntington, Bowmanstown and Philadelphia; Milwaukee, Wis., where 21 cases were reported; De Pere, Wis.; Kansas City, Mo.; in the jail at Opelika, Ala., court postponed; Salt Lake City, 29 cases; Niagara Falls, two schools closed; Mt. Horeb, Wis., 14 cases; people defied health board order to vaccinate; Norway, Kan., school closed; Chicago, 11 cases occurred in Bernarr McFadden's "Healthatorium," none of whom had been vaccinated; at Joliet an epidemic with 40 cases occurred.

Measles: Riverbank, Cal., 25 cases in the grammar school; Rickardsville, Iowa, schools closed; Walla Walla, Wash., 50 per cent. of pupils afflicted; at Kodiak, Alaska, and the Afognak Islands, 100 natives have died from epidemic measles.

Scarlet Fever: Sunbury, Pa., 55 cases reported; some schools closed; Thurston, N. Y., schools closed; Paducah, Ky., strict quarantine enforced on account of epidemic; Everett and Malden, Mass., pest-house opened to accommodate the patients; 50 cases in Everett and some schools closed; Wapping, Conn.; Lynchburg, Va., quarantine lifted from the Miller Female Orphanage, where 18 cases but no deaths occurred.

Chicken-pox: Twenty cases reported from Topeka; Canton, Ill.; Wilkes-Barre, Pa.; Little Rock, Ark.

Trachoma: Columbus, Ind., 49 cases reported among schoolchildren in the county; Florin, Cal., 6 cases found among Japanese schoolchildren.

CANADA

Personals.—Dr. Herbert J. Patterson, London, England, addressed the Academy of Medicine, Toronto, the evening of the 24th of November, on stomach surgery.——Dr. Oskar Klotz, professor of pathology and bacteriology, University of Pittsburgh, addressed the Academy of Medicine, Toronto, the evening of the 2nd of December, on "The Triple Alliance—Heart, Kidney and Arterial Disease."

Infant Mortality in Montreal.—The infant mortality of Montreal is practically double that of any other city in North America. Montreal with a population of 568,000 had 5,534 infant deaths in 1910, while Toronto with a population of 410,000 had 1,420. In 1912 in Montreal the deaths decreased, numbering 4,835, while in Toronto they increased and amounted to 1,584. The rate per thousand for the three years in Montreal was 9.2, while in Toronto it was 3.6. During the present year up to August 15 there had been registered in Montreal 4,172 infant deaths.

Hospital News.—Toronto is considering establishing two new hospitals to serve the east and west ends of that city, the total cost of both institutions to be about $1,000,000. Sites for both have been selected and approved by Dr. Bruce Smith, inspector of hospitals for Ontario and Dr. Chas. J. C. O. Hastings, medical officer of health for Toronto. It is likely that the city will submit by-laws at the coming municipal elections to provide $250,000 as a start for each institution. Dr. Bruce Smith says Toronto needs hospital accommodation for at least 500 more beds.

At the annual meeting of the medical staff and the board of governors of the Western Hospital, Toronto, the medical staff vigorously protested against appointments of three chiefs of clinics made without their consent. Recently a fine new hospital building was completed and arrangements made whereby medical students from the medical department of the University of Toronto would receive clinical instruction. The university authorities required three services of 100 beds each, and it was over the appointment of the heads of these services that the trouble arose. The following officers were elected: Dean of the medical staff, Dr. Elias Clouse; secretary, Dr. Frank Trebilcock; medical superintendent, Dr. James McCullough.——During the year ended September 30, 1,243 patients were treated in the Montreal Maternity Hospital, an increase of 250 patients over the previous year. The benefits of the institution were bestowed on twenty-five nationalities. The staff of nurses now number twenty-one.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Nov. 15, 1913.

The London Medico-Psychological Clinic

Excepting at Liverpool there is no clinic in England for the treatment of incipient mental disease. One has just been inaugurated in London termed the London Medico-Psychological Clinic. At the inaugural meeting Lord Sandwich, who was evidently chosen to preside in consequence of his interest in the subject, gave an address in which he "put his foot in it" with a vengeance. Having expressed his belief in the immense power exercised by the mind over the body he said that although he knew nothing of medical science he had had great experience in healing. During the South African War he received sixty officers into his country house and there had never been a doctor or nurse in the place. He himself had acted in both capacities toward his guests and had been both surprised and gratified by his success. There were few serious maladies that he had not treated, and he had never failed to relieve persons in the agonies of pain. He had attended people in palaces, in cottages, in hospitals and in homes. His patients had included a Hindu monk in his monastery, a Mohammedan

in his mosque and a Hindu princess who had traveled 500 miles to see him. He had often been asked to explain his power, but he had nothing to explain. He could only say what happened. He was convinced, however, that many other persons possessed similar power, if not to the same extent at least in lesser degree. In the proposed clinic there would be an opportunity for them to exercise it with great usefulness.

Other speakers followed. Miss Constance Long, a woman physician, said that many doctors had successfully practiced psychotherapy, but up to the present there had been no provision for the treatment of the poor. The Medico-Psychological Clinic would supply this and also provide opportunities for investigation of disease. The patients would include persons suffering from depression, insomnia, loss of sensation, the drug habit, morbid attention to bodily ailments, etc. The treatment would consist of persuasion, suggestion, reeducation, psychanalysis, induced sleep and hypnotism. The clinic would not be in opposition to orthodox medicine but supplementary to it, and forces could be joined with medical practitioners in a suitable building. Dr. Spearman, professor of psychology at University College, said there could be no doubt that science would gain from the formation of the new clinic. There was a growing interest in and demand for psychotherapy which could not be disregarded. Some years ago the subject had been treated with derision, but to-day this had ceased, and knowledge had been gained. Dr. Maurice Craig, F.R.C.P., physician for mental diseases and lecturer to Guy's Hospital, a well-known alienist, said that there was no proper provision in England for patients suffering from incipient mental disorder. They were left to struggle on until ready to be admitted into lunatic asylums, though a little timely treatment would have restored them. These unfortunates were by no means always the derelicts of society, but were frequently highly endowed and gifted.

As might be expected, the extraordinary claims of the chairman, a layman, to marvelous healing powers at a meeting in which the cooperation of the profession was necessary, had a sequel. The physicians concerned have written to the press saying that they had been compelled to dissociate themselves from the occult powers claimed by Lord Sandwich, who has terminated his association with the clinic. They add that they profess nothing but ordinary medical knowledge acquired in the ordinary way, and hope that the clinic will attract physicians who wish to learn practical psychotherapy. The whole of the healing art was cradled in superstition, and in the minds of many psychotherapy is still tinged with charlatanism from which the clinic would help to dissociate it.

Tuberculosis among Natives of South Africa

A parallel to the prevalence of tuberculosis among the negroes of the United States seems to be coming into existence in South Africa, where the same race is being brought into contact with European civilization. At the recent meeting of the South African Medical Congress Dr. D. Melville, who has for sixteen years resided in the heart of the "native territories" and acquired considerable knowledge of the manners and customs of the natives, said that deaths from tuberculosis occurred at all ages among the natives, excepting children, and were particularly frequent among young adults. The disease appeared to be responsible for a decline in the native population. A rapid increase of this population was noted in the census of 1904, but was not maintained in 1911, and a further drop would be shown in 1921. In three districts, which he knew well, the census gave the total native population as 81,272 in 1891 and 104,346 in 1904—an increase of 23,074, at the rate of 1,775 per annum. In 1911 the population was 110,358, an increase of 6,012, at the rate of 858 per annum. Thus the rate of increase had fallen by one-half, though during the period referred to the birth-rate had remained stationary. Tuberculosis was undoubtedly on the increase, for on going over the first 3,000 cases he treated in 1897 only 1 per cent. were found to be tuberculous, while the first 3,000 cases treated in 1912 showed 40 per cent. of tuberculosis. Of the tuberculous affections lung disease was easily first and glandular disease second, while affections of bones and joints were not numerous. The natives could be divided into two great classes—the red or blanket Kaffir, and the dressed Kaffir who adopted European clothing. In 1897 tuberculosis was much less prevalent in the blanket Kaffir, and this still held good but not to the same degree. In the overcrowded, dark, dirty and damp huts, never ventilated and never open to the sunlight, the disease was propagated. Where could the bacillus find better conditions for growth? Natives were great smokers, spit freely on the floors, and one pipe was passed from one to another.

The Bacteriology of Food-Poisoning

In a report to the local government board Dr. Savage communicated some important observations on "ptomain poisoning," as it used to be called, but which modern investigation is showing to be due to bacterial infection. Dr. Savage points out that the bacteria concerned in food infections can be included roughly in three groups: (*a*) the Gaertner group of bacilli, (*b*) non-Gaertner aerobic bacilli, such as *Bacillus proteus* and *B. coli*, and (*c*) *B. botulinus*. In the majority of recorded outbreaks of food-poisoning in which fatal cases have occurred, one or other of the Gaertner group of bacilli seems to have been the infecting organism. The Gaertner group of bacilli is a subgroup of the large coli-typhoid group, its members occupying an intermediate position between the chemically active coli group and the chemically inert typhoid group, and consisting of (1) *B. enteritidis*, which includes not only many of the Gaertner bacilli isolated in cases of food poisoning but also many of the strains of *B. typhi murium*; (2) *B. suipestifer*, with which one must associate some of the *B. typhi murium* strains, probably *B. psittacosis*, and (3) *B. paratyphosus* B. Sausage and ham are the commonest two sources of botulism. From the anaerobic character of the bacillus and the fact that outbreaks of botulism have never followed the eating of food in a fresh state, botulism must be produced by an invasion of food by *B. botulinus* only when suitable anaerobic conditions are provided, for example, when a ham is stored at the bottom of a pickling cask and entirely covered by the pickling solution. Van Ermengem states that the disease has never occurred when the food has been properly cooked as *B. botulinus* and its toxins are easily destroyed by heating. The *B. botulinus* will not grow in mediums containing more than 6 per cent. of sodium chlorid and it is unlikely, therefore, that any meat would develop *B. botulinus*, even if stored under anaerobic conditions, if a pickling solution containing 15 per cent. of salt were used.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Nov. 13, 1913.

Centenary of the Discovery of Iodin

November 9 the centenary of the discovery of iodin was celebrated. It was in November, 1813, that Bernard Courtois, who was born Feb. 15, 1777, at Dijon, read before the Académie des sciences a note entitled "Discovery of a New Substance in Sea-Wrack." Many scientific and medical men of prominence went to Dijon to take part in the celebration. A commemorative tablet was placed on the house in which Bernard Courtois was born. Afterward a session was held in the hall of the Académie de Dijon. Camille Matignon, professor of inorganic chemistry at the College of France, read an interesting paper on the discovery of iodin. During the troublous times of the eighteenth century the problem of nitrogen, or rather of potassium nitrate, demanded the attention of nations and of chemists. The old gunpowder was a mixture of potassium nitrate, sulphur and carbon, but the potassium nitrate constituted three-fourths of the mixture. The natural supply of saltpeter was insufficient for the needs of the various nations. A *salpêtrière* (manufactory of saltpeter) was founded at Dijon, and in the preparation of saltpeter Bernard Courtois noted, during the evaporation of the solution of sodium nitrate leached from the ashes of marine plants, that the copper caldrons used for the operation soon became perforated. In trying to find out the cause, he found that the copper combined with a substance the nature of which was unknown to him. He was able to isolate from the mother-waters of sea-wrack soda a new substance to which Gay-Lussac gave the name of "iodin." The first therapeutic application of iodin was made by Coindet of Geneva in 1820. He published a memoir on the discovery of a new remedy for goiter. From 1830 to 1840 the iodin industry was founded. More than twelve hundred families along the shore of the Cottentin and of Brittany were occupied in gathering, drying, grinding and burning sea-weeds. Later iodin was obtained from the saltpeter of Chile, and the rich layers of potassium and bromin salts from Stassfürt. To-day the greatest part of the iodin consumed comes from Chile. While in 1875 the production of iodin throughout the world did not exceed 250,000 kg., it had risen in 1900 to 590,000 kg., and of late amounts to about 450,000 kg. France produces only about 59,000 kg.

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Dangerous Colon Reactions

November 11, Dr. Albert Mathieu, physician of the hospitals of Paris, read before the Académie de médecine a paper on colic reactions. Under this name he designates reflex phenomena of colonic and sigmoidorectal origin which, under their most simple aspect, take the form of nauseas, vomitings, vertigoes or fainting, occurring among constipated persons at the time of an evacuation of the bowels after a period of several days of fecal retention. In some cases the complications occur at each such crisis, and sometimes are serious. Thus, in a young girl of 23 the vomiting had caused suspicion of the existence of chronic appendicitis, and the appendix had been removed. Later, the existence of a gastric or duodenal ulcer had been suspected. Moreover, there had been a hematemesis a year before that. One day, after a glycerinated enema, at the very moment of dejection, there occurred abruptly a sharp abdominal pain, vomiting, a serious condition of collapse with cold extremities, facies abdominalis and a rapid filiform pulse, so that a gastric perforation was feared. An exploratory laparotomy performed three hours later showed that there was no such perforation. Only adhesions were found and a duodenal scar, no doubt the results of former ulcers. A gastro-enterostomy was performed. A month later there was a similar crisis following another such dejection. In another case, that of a woman under treatment for chronic colitis, there was a serious collapse following a mucilaginous injection to which zinc oxid and bismuth subgallate were added, according to the formula used by the Mathieu service. The collapse was combated by injections of caffein and lasted three hours.

A Medal Presented to Dr. Roux

To-morrow the twenty-fifth anniversary of the foundation of the Pasteur Institute will be celebrated in the presence of the President of the Republic (THE JOURNAL, Oct. 4, 1913, p. 1307). The pupils and friends of Dr. Roux, director of the institute, have arranged to present him before the celebration with a medal bearing his own portrait.

Honor to the Memory of Dr. Lucas-Championnière

A petition to have a street in Paris named after Dr. Lucas-Championnière has received the signatures of all the members of the Académie de médecine to which it has been presented. The same proposition was made in the municipal council at the last session and was reported on favorably.

A Limitation of the Number of Licenses for the Sale of Liquor

In several departments, the prefects have forbidden giving licenses for the sale of liquors within a certain radius from 200 to 300 meters around churches, schools, cemeteries, barracks and hospitals.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Nov. 14, 1913.

Personal

Professor Doutrelepont of Bonn, who was formerly director of the dermatologic clinic, celebrated, October 26, the fiftieth anniversary of his doctorate.

Professor Morawitz of Freiburg has received a call to Greifswald as director of the medical clinic.

Professor Hotz of Würzburg has gone to Freiburg as successor of the deceased Professor Goldmann.

November 6, Professor Traumann, department head at the Hygienic Institute of Hamburg, died after a short illness at the age of 38. He had published numerous articles on meat poisoning, plague, meningitis, sterilization of milk, etc.

November 5, Professor Ponfick, formerly manager of the Pathologic Institute at Breslau, died at the age of 69. He was born Nov. 3, 1844, at Frankfort a.M., and after studying at Tübingen, Freiburg and Heidelberg, he became first an assistant of C. O. Weber, the Heidelberg surgeon, and afterward went to Recklinghausen at Würzburg for pathologic study, and came in 1868 to Berlin as assistant to Virchow in the Pathologic Institute. From here he was called to Rostock as regular professor in 1873. His work as professor was interrupted for some time by a journey of investigation which he made to Egypt, Nubia and Palestine as companion of the hereditary grand duke of Mecklenburg. In 1876 he accepted a call to Göttingen, and from there in 1878 he went to Breslau, where he acted as director of the Pathologic Institute until the spring of this year.

He was prominent as a teacher at the Breslau University, and as a scientist he published a large number of important articles. Among these is a series on transfusion, especially on the changes that the blood of a sheep undergoes when introduced into the circulation of man. He also wrote on mushroom poisoning and on the pathology of the liver and pancreas, on myxedema, on middle ear disease in small children, and on actinomycosis, which was at that time a new infectious disease.

The editor of the *Berliner Klinische Wochenschrift*, Dr. Hans Kohn, has received the title of professor.

Professor Schuchardt, director of the nerve clinic at Rostock, died November 7, aged 66. He was assistant at the medical clinic at Strasburg under Leyden and Kussmaul, and later became a member of the faculty at Bonn as assistant in the psychiatric clinic. In 1895 he was elected professor of psychiatry at Rostock. His works are concerned with his specialty, particularly with the public care of the insane.

The Eleventh German Conference on Tuberculosis

The eleventh tuberculosis conference under the patronage of the empress began October 22 in the Parliament House in Berlin.

SPECIAL TUBERCULOSIS DISPENSARIES

The first subject discussed was the special tuberculosis dispensaries (Fürsorgestellen für Lungenkranke). In the discussion, much interesting matter was presented with reference to the organization of tuberculosis dispensaries in different countries, such as Sweden; where the care of tuberculosis is far advanced, and Austria, where they are just beginning to lay a greater stress on this question. It was further discussed whether the physician connected with the special dispensary should be at the same time the director. The opinion of the conference inclined to the view that in the smaller places the physician may readily direct the technical matters and the details of the management, but in larger cities it is better to have a special official to take charge of these matters. This is especially favorable in bureaus established by the community where the medical representative of the city government may act at the same time as the chairman of the assistance bureau.

One of the representatives of the Krankenkassen warned against expecting the insurance societies to devote more and larger sums to the prophylaxis of tuberculosis; the Krankenkassen have so many demands of this sort that unless the fees are raised, any additional efforts on their part along this line are scarcely to be thought of.

SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS

Professor Brauer of Hamburg said that in the surgical treatment of tuberculosis a number of measures have given little result. On the other hand, the treatment of pulmonary tuberculosis by rest and compression of the lung tissue has proved successful. This is accomplished either by an artificial pneumothorax or by a plastic operation to reduce the size of the thorax. The simplest measure, when the pleural cavity is free, is the injection of air between the costal pleura and the lung, a measure which of late years has been widely adopted and with a careful selection of patients and proper technic has proved very useful and relatively free from danger. In case of pleural adhesions, various operative measures may be considered: circumscribed depression of the thorax wall, the purpose of which is to promote the already existing tendency of the lung to shrivel; the extensive extrapleural thoracoplasty recommended by Brauer, or the method of intrapleural thoracoplasty (Schede). It is very important that the indications be very strictly followed in regard to the general condition of the patient, complications, and especially the condition of the lung of the other side. Partial collapse and immobilization of the lung may be secured, aside from the Quincke-Spengler partial extrapleural thoracoplasty, by the freeing of the adherent apex of the lung. This procedure is especially successful by the method of Tuffier of Paris. He fills the space left by the liberation and depression of the upper lobe by implanting living adipose tissue. The process of Baer of Davos founded on this method attempts to fill the space by the injection of paraffin. This method is somewhat dangerous but may under some circumstances lead to good results. The paralysis of the diaphragm by cutting the nerve immobilizes the lower segments of the lung. Especially as a supplement to extrapleural thoracoplasty, benefit may be derived by this technic, as Sauerbach, Oelecker and others have shown. Brauer said in conclusion that one should not be led to overestimate the value of the method in consequence of the good results in individual cases, and, further, that the careful selection of suitable cases must be emphasized.

Marriages

GEORGE DRIVER BROGAW, M.D., Pilares de Naconari, Sonora, Mexico, to Miss Margaret Butler of Washington, D. C., November 18.

WILHELM LUDWIG BAUM, M.D., to Mrs. Mervyn Winston Lawrence, both of Chicago, in New York City, November 24.

CORBIN JAY DECKER, M.D., U. S. N. (ret.) Philadelphia, to Miss Katherine Mason of Asheville, N. C., December 3.

JOSEPH D. ELY, M.D., Hudson, Mich., to Mrs. Ellen Ford Van Buskirk of Fayette, Ohio, at Toledo, November 8.

ARTHUR WOODWARD BOOTH, M.D., Elmira, N. Y., to Miss Jeannette Van Cleef of Ithaca, N. Y., November 19.

ANDREW CULLODEN PANTON, M.D., to Mrs. Florence Merges Carlock, both of Portland, Ore., November 15.

HAROLD T. ALLISON, M.D., Heppner, Ore., to Miss Olive J. Lockwood of Portland, Ore., November 16.

WILLIAM ROY VAN DUZER, M.D., Pasey, Iowa, to Miss Nora J. Brinton of Stuart, Iowa, November 20.

JOHN CLIFTON ANTHONY, M.D., Birmingham, Ala., to Miss Mae Smith of Ozark, Ala., November 19.

SAMUEL GREENBURG, M.D., to Miss Anna Ruth Matzkin, both of Brooklyn, N. Y., November 11.

HARRY TROY EVANS, M.D., Springfield, Mo., to Miss Edna F. Mann of St. Louis, November 17.

JOHN C. MCCLENATHAN, M.D., to Miss Della Barnes, both of Connellsville, Pa., November 24.

CALVIN RANDOLPH MARSHALL, M.D., to Miss Grace Loomis, both of Indianapolis, November 15.

CHARLES E. FAWCETT, M.D., to Mrs. Mabel Slater, both of Stewartville, Minn., November 19.

OLIVE M. SLATE, M.D., Spokane, Wash., and John J. Maeny of Plains, Mont., November 18.

EPHRAIM KIRKPATRICK FINDLAY, M.D., to Miss Irene Nelson, both of Chicago, October 22.

Deaths

Robert Lee Edwards, M.D. New York University, New York City, 1894; a Fellow of the American Medical Association; formerly assistant in surgery in Cornell Medical College, New York City; later local surgeon of the Atlantic Coast Line Railroad at Darlington, S. C.; for the last six years a resident of Richmond, Va.; owner and physician in charge of the Southern Sanitarium; ophthalmologist, otologist and laryngologist to the Johnston Willis Sanitarium; died at his home in Richmond, November 12, from heart disease, aged 42.

Charles Mayrant Rees, M.D. Medical College of the State of South Carolina, Charleston, 1887; a Fellow of the American Medical Association; formerly professor of gynecology and obstetrics in the Charleston Medical School; professor of general and clinical surgery in his alma mater; first lieutenant, Medical Reserve Corps, U. S. Army; formerly president of the South Carolina Medical Association; died at his home in Charleston, November 15, aged 51.

William Kendall Newcomb, M.D. Rush Medical College, 1882; a Fellow of the American Medical Association; president of the Illinois State Medical Society in 1911, and once president of the Aesculapian Society of the Wabash Valley; one of the most esteemed and beloved practitioners of Central Illinois; attending physician to the Julia F. Burnham Hospital, Champaign; died at his home, November 25, from pneumonia, aged 56.

Terence Lathrop Carroll, M.D. Albany (N. Y.) Medical College, 1885; a member of the Medical Society of the State of New York; physician to the Albany Penitentiary; attending physician to St. Peter's Hospital and the South End Dispensary; died at his home in Albany, November 9, aged 49. Memorial services in honor of Dr. Carroll were held by the Albany County Medical Society, November 11.

Russell F. Goodwin, M.D. Rush Medical College, 1870; for many years proprietor of a sanatorium in Minneapolis; died in St. Barnabas Hospital in that city, November 15, aged 71, from injuries received two days before when he was struck by an automobile while attempting to board a street car.

Charles Sumner Collins, M.D. Boston University, 1875; formerly a member of the State Board of Health of New Hampshire and State Board of Lunacy and Charity; for several years a member of the state legislature; president of the Nashua Board of Education for twelve years and also president of the Nashua Board of Trade; died at his home, November 16, aged 60.

Douglas Ayres, M.D. Albany (N. Y.) Medical College, 1865; a Fellow of the American Medical Association; once president and first vice-president of the Medical Society of the State of New York; of the Montgomery County Medical Society; for many years president of the Board of Education of Fort Plain, N. Y.; died at his home, November 20, from myocarditis, aged 71.

Lucien LaBland Brainard, M.D. New York Homeopathic Medical College, New York City, 1874; a Fellow of the American Medical Association; for many years a member of the consulting staff of the Faxton Hospital, Utica, N. Y.; vice-president of the Little Falls (N. Y.) National Bank; died suddenly at his home in that city, November 18, from heart disease, aged 60.

Henry Harrison Forline, M.D. Kentucky School of Medicine, Louisville, 1861; Beaumont Hospital Medical College, St. Louis, 1887; formerly surgeon for the Missouri, Kansas and Texas Railroad, and while a resident of Chicago consulting physician to the Western Springs Sanitarium; died at his home in Los Angeles, August 8, from arteriosclerosis, aged 72.

Edward Francis Denner, M.D. College of Physicians and Surgeons, New York City, 1894; a member of the Medical Society of New Jersey and a leading practitioner of Paterson; for several years associate and consulting surgeon to St. Joseph's Hospital; died in that institution, November 14, from typhoid fever, aged 41.

James H. McClelland, M.D. Hahnemann Medical College, Philadelphia, 1867; president of the American Institute of Homeopathy in 1893-1894; professor of surgery in his alma mater in 1876 and 1877; president of the State Board of Health in 1895; died at his home in Pittsburgh, November 13, from heart disease, aged 68.

Zachariah Taylor Miller, M.D. Hahnemann Medical College, Philadelphia, 1877; a veteran of the Civil War; for many years professor of artistic anatomy in the Carnegie Institute of Technology; a member of the staff of the Pittsburgh Homeopathic Hospital; died at his home, November 14, from angina pectoris, aged 66.

Simon James O'Neil, M.D. New York University, New York City, 1887; formerly assistant in the department of obstetrics in his alma mater; for twenty years physician to the Rockaway Institute and House of the Good Shepherd, New York City; died at a hotel in Long Beach, November 14, from heart disease, aged 52.

Henry Clay Beall, M.D. Missouri Medical College, St. Louis, 1880; a Confederate veteran; for thirty-four years a practitioner of Carroll, Mo., and for ten years thereafter a resident of Cortez, Colo.; died at the home of his daughter in DeWitt, Mo., November 7, from pneumonia, aged 70.

James Edwin Ray, M.D. University of Pennsylvania, Philadelphia, 1860; a member of the Colorado State Medical Society; a pioneer practitioner of Crowley County, and a resident of Sugar City for fifty-six years; died in St. Mary's Hospital, Pueblo, November 12, from heart disease, aged 77.

William Shippen, M.D. Medical College of Virginia, Richmond, 1887; a member of the Medical Society of Virginia; for twenty years acting assistant surgeon in the Army; later city physician of Petersburg, Va.; died in the Petersburg Hospital, November 17, aged 52.

Edwin R. Schwinn, M.D. Chicago College of Medicine and Surgery, 1912; of Wheeling, W. Va.; aged 23; who went to Houston, Tex., to take the examination for license to practice medicine in that state, choked and died in that city, November 8, while eating supper.

Edgar Clarence Collins, M.D. Albany (N. Y.) Medical College, 1880; a Fellow of the American Medical Association; proprietor of the Collins Emergency Hospital, Springfield, Mass.; died in that institution, November 14, from angina pectoris, aged 55.

W. Frank Clopton, M.D. Tulane University, New Orleans, 1872; physician, cotton, planter, banker, head of the W. F. Clopton Mercantile Company and president of the police jury of St. Landry Parish, La.; died at his home in Morrow, November 18.

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John Kemper, M.D. Illinois Army Board, 1864; Long Island College Hospital, Brooklyn, N. Y., 1867; surgeon of the Twenty-Eighth Illinois Volunteer Infantry during the Civil War; died at his home in Galesburg, Ill., November 28, aged 80.

Charles E. Boult, M.D. University of Buffalo, N. Y., 1892; president of the Board of Education of Honeoye Falls, N. Y., and one of the coroner's physicians of Monroe County; died suddenly at his home, November 7, from heart disease, aged 54.

Albert W. Hendricks, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1871; one of the founders, and for many years surgeon, of the Home for Old Soldiers, Philadelphia; died at the home of his daughter in that city, November 19.

John McIntyre Morrison, M.D. Cooper Medical College, San Francisco, 1895; formerly a practitioner of Richmond and Loyalton, Cal.; died in the Roosevelt Hospital, Berkeley, Cal., November 16, from carcinoma of the stomach, aged 42.

James Randolph Medlock, M.D. Washington University Medical School, St. Louis, 1875; a Fellow of the American Medical Association; died suddenly at his home in Santa Ana, Cal., November 11, from cerebral hemorrhage, aged 76.

Carl Fisch, M.D. Missouri Medical College, St. Louis, 1893; a Fellow of the American Medical Association and a well-known pathologist and bacteriologist of St. Louis; died at his home, November 17, after a long illness, aged 54.

William P. Jones, M.D. Philadelphia University of Medicine and Surgery, 1861; assistant surgeon of the Forty-Second Pennsylvania Volunteer Infantry during the Civil War; died at his home in Philadelphia, November 18, aged 76.

A. J. Clements, M.D. University of Nashville, Tenn., 1858; for many years a practitioner of Glasgow, Ky.; a member of congress from Tennessee during President Lincoln's administration; died November 7, from pneumonia, aged 79.

Philip Francis Xavier Ryan, M.D. College of Physicians and Surgeons, New York City, 1901; for five years a medical examiner for the New York Life Insurance Company; died at his home in New York City, November 17, aged 37.

Edward L. Braun, M.D. Philadelphia College of Medicine and Surgery; for many years an alderman of Pittsburgh, Northside, but for five years a resident of Detroit; died at his home in that city, November 5, aged 58.

Adolph J. Broell, M.D. Northwestern University Medical School, 1892; of Chicago; a Fellow of the American Medical Association; died in the German-American Hospital, Chicago, November 30, from typhoid fever, aged 43.

Frederick R. Hunt, M.D. Northwestern University Medical School, Chicago, 1888; for several years a practitioner of Austin, Chicago; died suddenly at his home in California, August 30, from angina pectoris, aged 52.

Thomas Hanson (license, Ontario, 1891); a graduate of Victoria College, Medical Department, Coburg, Ont., in 1864; when too young to receive a degree; died at his home in Kenora, Ont., September 30, aged 67.

James S. McFarland, M.D. University of Edinburgh, Scotland, 1850; M.R.C.S., Edinburgh, 1850; for four and a half years a surgeon in the English Army; died at his home in Oil City, Pa., November 13, aged 80.

David M. Nottingham, M.D. Hahnemann Medical College, Chicago, 1881; formerly a member of the Michigan State Legislature; died at his home in East Lansing, Mich., November 11, from heart disease, aged 58.

John Harvey Hill, M.D. University of Pennsylvania, Philadelphia, 1867; a veteran of the Civil War; an expert on small-pox; died in his apartment in Baltimore, November 10, from ptomain poisoning, aged 70.

Nelson B. Lafferty, M.D. Starling Medical College, Columbus, Ohio, 1863; a member of the Ohio State Medical Association; a veteran of the Civil War; died at his home in Hillsboro, November 9, aged 73.

John Walter Poston, M.D. Eclectic Medical Institute, Cincinnati, 1873; Memphis Hospital Medical College, 1882; died at his home in Maury City, Tenn., about November 5, aged 63.

Clarence T. Pope, M.D. Louisville (Ky.) Medical College, 1873; for more than forty years a practitioner of Louisville; died at his home, November 13, aged 61.

Paul Newlon, M.D. University Medical College, Kansas City, Mo., 1908; died at his home in Lincoln, Kan., September 25, from typhoid fever, aged 29.

Maria Gutterman Graff Scott, M.D. University of Heidelberg, 1862; said to have been the first woman to practice medicine in Louisville; died at her home, November 13, from arteriosclerosis, aged 73.

Lionel E. Bratton, M.D. Memphis Hospital Medical College, 1896; University of Louisville (Ky.) 1900; a practitioner of Arkansas for twenty-five years; died at his home in Atkins, November 18, aged 49.

James A. Koehler, M.D. Ohio Medical University, Columbus, 1898; a Fellow of the American Medical Association; died at his home in Shelby, Ohio, November 13, from pernicious anemia, aged 40.

Samuel S. Lytle, M.D. University of Iowa, Iowa City, 1878; a pioneer member of the faculty of his alma mater; a veteran of the Civil War; died at his home in Iowa City, November 8, aged 71.

Carl Lyle Hobson, M.D. University of Pennsylvania, Philadelphia, 1910; a member of the Iowa State Medical Society, died at his home in Hampton, Iowa, November 14, from pneumonia, aged 27.

Theophile A. Lafferty, M.D. Michigan College of Medicine and Surgery, Detroit, 1903; of Detroit; died in the psychopathic ward of St. Mary's Hospital in that city, November 12, aged 34.

Charles Ferdinand Durand, M.D. University of Toronto, Ont., 1882; formerly acting medical superintendent of the Municipal Hospital, Buffalo; died in Toronto, November 10, from pneumonia.

Charles Roy Stewart, M.D. University of Nebraska, Lincoln, 1910; of Curtis, Neb.; was crushed under his overturned automobile near Curtis, November 2, and instantly killed, aged 27.

William Pennington Mullin, M.D. Hahnemann Medical College, Philadelphia, 1881; of Chestnut Hill, Philadelphia; died in St. Luke's Hospital in that city, November 14, aged 52.

John B. Longshere, M.D. Pennsylvania Medical College, Gettysburg, 1846; one of the oldest practitioners of New Jersey; died at his home in Camden, November 10, aged 92.

Daniel B. Bobb, M.D. Northwestern University Medical School, Chicago, 1864; for nearly half a century a practitioner of Dakota, Ill.; died at his home, November 14, aged 76.

John Lawson Fleming, M.D. University of Tennessee, Nashville, 1894; of Goodwin, Ark.; died in the Baptist Hospital, Memphis, October 19, from tetanus, aged 47.

Christopher C. Hiatt (license, Indiana, 1897); of Muncie, Ind.; a veteran of the Civil War; died in the Soldiers' Home, Lafayette, Ind., November 8, aged 83.

Carl A. Coburn (license, years of practice, Michigan, 1900); for about 40 years a practitioner of Michigan; died at his home in Homer, November 6, aged 73.

George Bassett Sawtelle, M.D. Hahnemann Medical College, Philadelphia, 1866; died at his home in Malden, Mass., November 14, from heart disease, aged 75.

Ezekiel McNair, M.D. Medical College of Georgia, Augusta, 1876; died at his home in Jeffersonville, Ga., September 16, from cerebral hemorrhage, aged 66.

William Roscoe Dell, M.D. Milwaukee Medical College, 1904; of Marinette, Wis.; died in a sanitarium in Kenosha, November 20, from nephritis, aged 34.

Daniel Whitfield Carroll, M.D. Vanderbilt University, Nashville, 1913; died at his home in Brock, Okla., October 28, from typhoid fever, aged 22.

Lucien B. Abney, M.D. Medical College of Ohio, Cincinnati, 1861; died at his home in Elizaville, Ky., November 6, aged 78.

Denis Morin, M.D. Hahnemann Medical College, Chicago, 1884; died at his home in Chicago, November 14, aged 72.

Thomas Mahon Armstrong, M.D. Victoria University, Coburg, Ont., 1860; died in Lloydtown, Ont., October 5, aged 76.

Edward Roscoe Miller, M.D. Boston University, 1887; died at his home in Leominster, Mass., October 17, aged 54.

Arthur Marks, M.D. Toledo (Ohio) Medical College, 1910; died at his home in Toledo, October 18, aged 31.

Hiram Raleigh Kennedy, M.D. University of Louisville, 1880; died at his home in Green Hill, Ala., October 8.

Edward J. Fischer, M.D. Rush Medical College, 1880; died at his home in Chicago, November 7, aged 65.

George William Spears, M.D. Boston University, 1876; died at his home in Boston, October 30.

Frank G. Kimbrough, M.D. University of Alabama, Mobile, 1890; died at his home in Salado, Tex., November 7.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE LACTIC ACID FERMENT PREPARATIONS IN N. N. R.

Report of the Council on Pharmacy and Chemistry

The following report on the quality of the market-supply of the lactic acid ferment preparations described in New and Nonofficial Remedies has been authorized for publication.

W. A. PUCKNER, Secretary.

The frequently made assertions that the lactic acid ferment preparations on the market are worthless made it important to determine the quality of those admitted to New and Nonofficial Remedies. A control of these products appeared all the more desirable because past examinations of the market-supply showed these preparations to be most unreliable (THE JOURNAL Jan. 30, 1909, p. 372), and because their very nature makes deterioration likely.

Orders for one package of each of the lactic acid ferment preparations admitted to New and Nonofficial Remedies were therefore sent to three prescription pharmacists—one each in Chicago, Detroit and Indianapolis—with the request to take these from stock or to purchase them in the regular way. Also, specimens were ordered direct from the manufacturer.

None of the pharmacists could supply either bacillary milk or lactampoules. In answer to an inquiry the manufacturer states that so far these products are supplied direct only. One pharmacist sent a specimen of the Fairchild Culture of Bacillus Bulgaricus, and as this product had been sent to the council for inclusion with New and Nonofficial Remedies this specimen, and one sent by the manufacturer, were also included in the examination. Altogether, the following specimens were sent to the council's expert:

Fairchild Culture of Bacillus Bulgaricus, Fairchild Bros. & Foster. One specimen from manufacturer and one from pharmacist.

Lactic bacillary tablets, Fairchild Bros. & Foster. One specimen from manufacturer and three from pharmacists.

Lactampoules, Fairchild Bros. & Foster. One specimen from manufacturer.

Bacillary milk, Fairchild Bros. & Foster. One specimen from manufacturer.

Bulgara tablets, Hynson, Westcott & Co. Two specimens from manufacturer and three from pharmacists.

Massolin, Schieffelin & Co. One specimen from manufacturer and two from pharmacists.

The following is the result of the investigation:

1. Preparations of Fairchild Bros. & Foster.

The Fairchild Culture of Bacillus Bulgaricus. Two samples were examined. These were both pure cultures and the bacilli were in good viable condition. The reactions on litmus-milk were typical. Sterilized milk coagulated promptly in less than twenty-four hours, forming a good, smooth, typical coagulum. Microscopic examination of the original culture, and the milk inoculated with the original culture, showed Bulgarian bacilli in pure culture.

The Fairchild lactic bacillary tablets. Four specimens were examined. The bacilli were not in so viable a condition as in the liquid culture. They worked more slowly and a few other bacteria got in, no doubt owing to lodgment on the tablets. Four tablets (not crushed) did not curdle sterile milk after forty-eight hours. In litmus-milk only slight acidity was developed after forty-eight hours. Microscopic examination of this litmus-milk, however, showed only Bulgarian bacilli, although relatively few in number.

Fairchild's lactampoules. These showed the same reactions as the Culture of Bacillus Bulgaricus. Milk was promptly coagulated. Acid formation and coagulation in litmus-milk were typical. Microscopic examination showed the bacilli in pure culture.

Fairchild's bacillary milk. One sample was examined. It had the typical taste, consistency, etc., produced by Bulgarian bacilli in milk. Microscopic examination showed Bulgarian bacilli in pure culture, and inoculation of sterile milk produced typical coagulum, taste and appearance.

2. Preparation of Hynson, Westcott & Co., Bulgara Tablets.

Five original packages of these tablets were examined. The tablets contained pure cultures of Bulgarian bacilli as shown by microscopic examination. In litmus-milk typical curd and acid reactions were produced. Inoculations into sterile milk produced typical coagulum, with very little whey and characteristic taste and appearance. The action was somewhat slower, however, than is produced by liquid cultures. All five samples acted exactly alike.

3. Massolin, prepared by Lederle Laboratories and marketed by Schieffelin & Co.

Three samples of Massolin were examined. They contained pure cultures of Bulgarian bacilli in liquid form. The action was very prompt, more so than any of the other samples of commercial articles examined. Litmus-milk curdled and was acidified in typical fashion. Microscopic examination showed the bacilli to be in pure culture.

Explanation: Typical coagulum produced by Bulgarian bacilli should be smooth, with little or no whey. In litmus-milk the litmus is decolorized, excepting a ring at the top, which is intensely red. Most races produce practically no whey, although certain races produce some. There should never be much whey.

This report shows that while the market-supply—at least that examined in 1909—was highly contaminated, the products described in New and Nonofficial Remedies without exception contain only the *Bacillus bulgaricus*. Further, while all products containing living bacteria are bound to deteriorate, the preparations examined were in viable condition, though, as was to be expected, liquid cultures were more active than the tablet preparations.

In this connection it should be pointed out that besides placing an expiring date on each package, the manufacturers of these products are making every effort to insure the dispensing of reliable products when they are ordered by physicians. These manufacturers have urged pharmacists to keep the lactic acid preparations in ice-boxes or refrigerators, to purchase only a limited supply and in other ways to give special attention to their dispensing as directly as possible from the laboratories of the manufacturers. Physicians should examine the date on the label to be sure the preparation is not too old.

WHAT'S THE MATTER WITH ILLINOIS?

The *Illinois Medical Journal* has come tumbling down the ladder of progress and joined the ranks of the obstructionists. The number of advertising pages have increased accordingly. But what will the 5,000 members, the large majority of whom, we are convinced, stand for the principle that the State Association and its publications shall uphold the standards of organized medicine, including the rules of the Council on Pharmacy and Chemistry governing advertisements, think of the backward step which their journal has forced them into?

Perhaps there is no more pitiable spectacle in the battle of life than lowering your standard and acknowledging defeat after exhausting all your resources in maintaining a principle. There is no disgrace attached to the conclusion of an issue honestly fought, but when a leader deliberately surrenders his people to the opposing forces while still well armed and eager for battle, he is guilty of a treasonable act and ought to be dealt with accordingly. The *Illinois Medical Journal* until very recently stood for the principles of our organization and its pages were free from objectionable advertisements. With the change in management (it has no editor) comes a disgraceful acknowledgment that it will accept and publish advertisements of articles irrespective of the findings of the Council on Pharmacy and Chemistry concerning the honesty and reliability of those articles. Will the Illinois State Medical Association permit its journal to be prostituted in this disgraceful manner after fighting for years to be consistent, respectable and ethical?—*The Journal of the Missouri State Medical Association, November, 1913.*

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SANATOGEN

A Restatement of the Case Against This Product

The case against Sanatogen has been pretty plainly given at different times in THE JOURNAL,[1] but the sale of the stuff goes on—thanks to the power of advertising. One criticism that has been made of this patent medicine is the exorbitant price charged for it. This objection, although but an incidental one, is the one that apparently appeals to the layman more strongly than the much more serious criticism, fraud in exploitation. You arrest the attention of the average man when you appeal to his purse; he resents paying an exorbitant price for anything. This probably accounts for the fact that this particular criticism has apparently hurt the sale of Sanatogen to a greater degree than the more serious objections made to the preparation. This also accounts, doubtless, for the fact that the attempts to answer THE JOURNAL'S criticisms, by those who are selling Sanatogen, have been largely devoted to the one point—its outrageously high price.

The fundamental objection to Sanatogen is not its high price, but the attempt to ascribe to a mixture of casein and glycerophosphates powers not possessed by these ingredients—in other words, the misleading and fraudulent claims made for it. Even if it were sold at cost price, the stuff, as at present advertised, would still be a fraud. The nub of the whole matter is: The claims made for Sanatogen are unwarranted, misleading and fraudulent.

SOME FRAUDULENT CLAIMS

The constituents of Sanatogen are casein and sodium glycerophosphate. These two very ordinary substances possess, so the Sanatogen people would have us believe, peculiar properties when they are brought together in chemical combination. Sanatogen, they claim, *is* a chemical combination of these constituents. The claim may be a good "selling-point," but it cannot be, and is not, seriously taken by chemists. But even supposing, for the sake of argument, that sodium glycerophosphate and casein could be combined, there is not a scintilla of evidence to show that such a combination could survive the destructive influence of digestion and be absorbed. Whether Sanatogen is a chemical combination of casein and sodium glycerophosphate or a mere mechanical mixture of these two substances is really immaterial. In either case, it would be separated into its constituent parts by the digestive juices and would have the properties of sodium glycerophosphate and casein, and nothing more.

Remembering this, let us examine once more some of the claims made for this patent medicine:

"Sanatogen is a nerve and tissue food for which the brain, spinal cord and the nerves have a special predilection."

". . . practically identical with the main ingredient of nerve and muscle cells. . . ."

"Sanatogen stands pre-eminent in its power to feed the nerve centers, to promote healthy digestion, to give strength and endurance to the entire system."

". . . food for tired nerves. . . ."

". . . a rational, scientific nerve-food."

To the physiologist, the term "nerve-food" is an absurdity. The processes of digestion reduce the albuminous substances (proteins, such as casein) of the food to simpler forms. This is true no matter what may be their source. Whether the proteins are derived from the gluten of wheat, the casein of milk or the albumin of egg, one will "feed the nerves" just as well as the other. And Sanatogen "feeds the nerves" no more than, in fact not as much as, do bread and meat and eggs. Of course, the casein in Sanatogen has food-value, but so has ordinary casein—cottage cheese, "pot cheese," or the German *schmierkäse*, for instance—and it is both false and fraudulent to claim for the casein in Sanatogen any greater nutritive value than that possessed by the casein in ordinary milk. To pretend that there are wonderful properties in the protein of Sanatogen when just as good protein can be purchased (for much less money) from the milkman, is to perpetrate a fraud on the purchaser. Here are some more claims:

". . . marvelous revitalizer of nerve health."

". . . Sanatogen has positive reconstructive force in neurasthenia."

"If You Need New Strength and Vitality You should at once get acquainted with Sanatogen."

Strangely like the "lost manhood" advertisements, this last. And this, also:

". . . has brought new strength, new vitality and new relish of life to thousands upon thousands who suffered from starved nerves. . . ."

"Countless people . . . have regained fresh health and vigor through the vitalizing and invigorating effects of Sanatogen."

Of course Sanatogen is not sold as a "consumption cure." No such crude claims as these emanate from the skilled advertising agents employed by the Sanatogen people. If they did they could not get space in high-grade magazines! As a preventive of consumption, however, we find:

"Sanatogen . . . creates new tissue and nerve capital . . . This nerve capital will . . . save the individual from attacks of acute disease. Against tuberculosis it is an excellent investment."

Also, it is a pick-me-up! Thus:

"Sanatogen promises to pick you up when run down—*it does so.*"

Most people are under the necessity of working for a living. If we are to believe the Sanatogen advertisements, it seems remarkable that the human race has managed to jog along for so many centuries without this product, for we read:

"It is practically indispensable to all who are unable to take prolonged rest. . . ."

Naturally we do not expect to find the coarse, "free-to-you-my-sister" type of claims in Sanatogen advertisements. Nevertheless:

"Women . . . find in Sanatogen a genuine sustaining agent."

Finally, we would respectfully direct the attention of those gentlemen of the medical profession who have so far forgotten the dignity of their calling as to give fulsome puffs for this casein-glycerophosphate product to the following claims and ask whether they really subscribe to them:

". . . it revivifies the nerves, promoting sleep and helping digestion. . . ."

". . . it builds up the blood, creating new strength and the power to do and accomplish."

". . . Sanatogen is a *natural*, healthful food and tonic. . . ."

". . . a health and strength giving food and tonic composed of those very elements which make cell and tissue grow."

"Blood and tissues alike hunger for Sanatogen as their concentrated nourishment."

"Sanatogen is the one food tonic that commands your absolute confidence."

How many intelligent physicians really believe that there is the slightest basis of fact for the claims we have quoted? Yet it is by means of these claims that Sanatogen is being foisted on a public that looks to the medical profession for enlightenment and truth. And every quotation in this article is taken from advertising matter issued during the current year, 1913!

In closing, let us reiterate: The objections to Sanatogen are primarily the objection to any fraud. It is being sold under unscientific, misleading and fraudulent claims; moreover, although this is of less importance, the purchaser pays an extraordinary price for a most ordinary product. We believe the time will come when even the artificial stimulus of vast advertising appropriations will be insufficient to overcome the inertia inherent in a product of small merit. When that time comes, Sanatogen will die a natural death. In the meantime, its exploiters are reaping a golden harvest, of which no small part is being divided among publishers, medical and otherwise. And the credulous among the sick and suffering pay the bills!

1. The present article and previous ones on this subject are reprinted in a pamphlet entitled "Sanatogen," price 4 cents.

Miscellany

Preservation of Eggs by Refrigeration in Sterile Air.—M. F. Lescardé at the Third International Congress of Refrigeration described a method of preserving eggs by refrigeration in sterile air. The eggs are placed on end in horizontal fillers made of pasteboard and wood; then these fillers are put into tin cases which can be hermetically sealed, each case having a capacity of six fillers containing 160 eggs. The covers of the filled cases are then soldered, and the cases are deposited in an autoclave (digester) which contains twelve cases of 960 eggs each. A vacuum is then made in the autoclave, and a duly proportioned mixture of two gases, carbon dioxid and nitrogen, is injected. This process is very simple because carbon dioxid and nitrogen, in the form of compressed or liquefied gases, are on the market now, so that the manipulation of a few cocks, and the reading of a gauge suffice to produce the proper mixture. The process in the autoclave having been completed, the cases are taken out, hermetically sealed, and stored in cold storage rooms, at a temperature varying between 1 and 2 C. The chief advantages accruing from the preservation of eggs in sterile air are the following: (1) Waste, of such importance in ordinary cold storage, is completely eliminated. (2) The eggs retain a perfectly "fresh" flavor, and consequently they remain excellent for table use even after ten months' storage; they also retain their full weight, because no evaporation is possible in the tin cases. (3) After their removal from the cold storage rooms the eggs remain in perfect condition for a long time, and can be shipped long distances without deterioration; this constitutes a signal superiority over the ordinary cold storage eggs, which deteriorate rapidly after having been taken out of cold storage. The reason for this is simple: the antiseptic air which surrounds them for several months, together with the cold, absolutely destroy all bacteria which may be on the shell of the egg, or in its substance. Deterioration cannot set in except by reinfection, which is produced only by exposure to the air for several weeks. By reason of the above-mentioned advantages, eggs preserved in sterile air find a ready market, and command much higher prices in winter than ordinary cold storage eggs, or even the so-called "fresh" imported eggs. The cost of treatment and preservation, amount to 15 francs per thousand.

The Decidua Has an Internal Secretion.—Gentili gives a detailed description in the *Ann. di Ostet. e Ginecol.*, 1913, xxxv, 257, of experiments with aqueous extracts of the decidua of cows, dogs and human beings. These extracts proved very toxic when injected in small doses into the circulation of rabbits. The extract of rabbit and guinea-pig decidua is also toxic for their own species, though in larger doses. The toxic phenomena are similar to those caused by injection of extracts of the glands which have an internal secretion; but contrary to the action of these extracts, the decidua extract is more toxic for different species. The post-mortem picture in animals dying from the effect of the injection of decidua extract is similar to that of animals dying from fatal doses of extracts of other organs having internal secretion. There was thrombosis of the pulmonary veins, showing the presence of some substance that favors coagulation of the blood within the body. This substance can be neutralized by blood-serum from the same species of animal from which the decidua was taken. In cows, particularly, the greater toxicity was in the early stages of pregnancy. Aside from its toxic effects, decidua extract always has the property of causing a marked fall in blood-pressure. It lessens the force of the systolic wave and produces disturbance in the cardiac and respiratory rhythm. Similar but less pronounced phenomena are produced by extracts of the corpus luteum. It is evident from these results that the conjecture that the decidua has an internal secretion is no longer merely a logical supposition, but has been demonstrated by experiments to be a fact.

Correspondence

Federal Regulation of the Practice of Medicine

To the Editor:—I have read your comments on the Reilly bill (THE JOURNAL, Oct. 25, 1913, p. 1557) to the effect that the Reilly bill is "an impossible proposal," by reason of the fact that in the United States "the regulation of the practice of medicine comes under the police power of the state legislatures and not under that of Congress," and further that "the consideration of any measure by Congress providing for the control of the practice in the states by any federal board is simply a waste of time, as any such measure, even if adopted, would be declared unconstitutional as soon as it came into court." If your views correctly state the powers of Congress, this bill should and will be killed in the committee in charge, notwithstanding the fact that "in every other civilized nation such national control is in effect" and the desirability of such a control is generally recognized in the United States. For myself and other readers of THE JOURNAL to whom I have spoken, none of whom are deeply versed in constitutional law, but who are possessed of an abiding faith in the powers of Congress to legislate for the general welfare of the citizens of the whole United States even to the extent of guarding the health and life of every citizen of the land; and who are imbued with a belief that the preamble of the Constitution of the United States did not in general terms overstate the powers conferred on Congress by the Constitution at the time of its adoption, and with a belief that the powers of Congress were enlarged, and not weakened, by the subsequent amendments, it is difficult to accept the view that Congress has not the power to provide for the common defense and general welfare of all the people in like manner as the states may do for all the people within their borders in the exercise of the so-called police power of the state. Although Congress has not in the past supplemented the powers of the state in all cases with her general power to promote the general welfare of citizens of the United States in the matter of guarding their lives and health, such omissions do not justify the inference that Congress is void of the power to do so. Congress has recently exercised this latent power on more than one occasion. Congress possesses all the powers conferred by the eighth section of the United States Constitution, and, in addition to the powers mentioned in Section 8 of the federal Constitution, Congress may do anything that is not prohibited by the Constitution. These latent powers of Congress have supplemented the police powers of the state in the passage of the federal Food and Drugs Act, generalizing the Pure Food and Drugs LAW of the state of Indiana passed in the exercise of the police power of that state a few years previously to the federal law, and the Supreme Court has not annulled the federal law.

Congress has within the last few months passed a national income-tax law supplemental to the income-tax laws of many of the states, and no good lawyer will gainsay the constitutional right of Congress to do so. Neither do I find any decisions by any court of last resort denying Congress the latent power to provide for the general welfare even to safeguarding the lives and health of the citizens of the United States by a congressional regulation of the practice of medicine. Will you not in some future editorial assist your readers to a clearer understanding of the constitutionality of the Reilly bill by citing a few Supreme Court decisions showing that Congress has not the power to promote the general welfare of the people of the United States even to the federal regulation of the practice of medicine? So long as that regulation applies to all parts of the union equally, let your readers have "thus sayeth the law" and be convinced.

M. M. CLAPPER, M.D., Hartford City, Ind.

COMMENT.—The reference of our correspondent to the new income-tax law is the best possible illustration of the limitations of federal power. It will be remembered that Congress, a number of years ago, did pass an income-tax law, which was

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promptly decided by the United States Supreme Court to be unconstitutional. An amendment to the Constitution was then prepared and submitted to the states. As soon as the necessary number of states had ratified it, Congress at once passed an income-tax measure. If the Reilly bill or any similar measure should become a law, the Supreme Court would without doubt declare it unconstitutional. An amendment to the Constitution similar to the income-tax amendment would then be necessary to make such a law valid.

Taking up now the question raised by our correspondent, the expression "public welfare" embraces a variety of interests. It may refer to primary social interests of safety, order and morals; to economic interests, or to political interests. The federal government, through its constitutional authorization, has delegated to it, in large part, chiefly the third class of interests, while the first two are reserved to the several states or to the people. As a result, it would appear from the best authorities that there can be no federal regulation of the practice of medicine whereby a person may, under a federal license, be authorized to practice in any given state, and contrary to the laws thereof. That is to say, that each state only may determine who is to practice medicine within its jurisdiction, and that Congress has no power to legislate to that end. (Freund, Police Power, Paragraph 9. Stimpson, The American Constitutions, Chapters 3, 10, pp. 60, 106).

The profession of the physician, whose relations to life and health are of the most intimate character, and thereby closely associated with "safety, order and morals," would clearly seem to fall within the first group, that is, the "primary social interests." It is almost entirely because of this intimate relationship, whereby the ignorant and credulous may be imposed on by empiricists and charlatans, that the government is authorized to enact certain conditions for the regulation of the medical profession. The right to impose such regulations is derived from the "power of police," or power to prohibit and prevent the perpetration and promulgation of any act *per se* fraudulent. "Police power" is inherent in all governments or sovereignties. That is, the right and authority to issue police regulations for the furtherance of the public safety, order and morals or for the social interests, is a consequence of the establishment of government. But, under the Constitution of the United States, the federal government has only such powers as are either expressly or impliedly vested in it. All other powers are reserved to the several states or to the people. Among such reserved powers are the powers of police within the jurisdiction of each of the several states, and included therein is the right to regulate the practice of medicine within the confines of each of the states. (Freund, Police Power, Paragraphs 10, 64, 65, 68, 85. *Dent v. West Virginia*, 129 U. S. 114; *Hawker v. New York*, 170 U. S. 189; *Jacobson v. Massachusetts*, 197 U. S. 11; *State v. Hathaway*, 115 Mo. 36.)

A state regulates its domestic commerce, contracts and the transmission of estates, real and personal, and acts on all internal matters which relate to its moral and political welfare. Over these subjects the federal government has no power. The "police power," which is exclusively in the states, is alone competent to preserve the public peace, health and morals. Nor can this power be taken from the states, either wholly or in part, and exercised under legislation of Congress.

The precise question as to the constitutionality of a federal enactment regulating the practice of medicine has not, so far, been decided by the United States Supreme Court because no federal law providing for such regulation has ever been enacted; but an examination of the several cases, cited herewith, would seem to show that all legislation regulating the practice of medicine is but an exercise of that "police power" vested solely in each of the several states to control the "primary social interests" as to health, morals and safety, and further, that from the very institution of our form of government, state and federal, all such affairs as the regulation of the liquor traffic, the regulation of the practice of medicine, and in fact any matter involving the intimate relations of daily life as between man and man, were specifically vested in the states. Hence it would clearly seem to follow under the rule that a court must follow the law as heretofore decided in prior cases, that the validity of such a measure could hardly be decided otherwise than negatively. (*Martin v. Hunter's Lessee*, 1 Wheaton 304; License Cases, 5 Howard 4; *United States v. DeWitt*, 9 Wallace 41; *Barbier v. Connolly*, 113 U. S. 27; *People v. Compagnie Générale*, 2 Sup. Ct. Rep. 87; *Mugler v. Kansas*, 123 U. S. 623; *Gundling v. Chicago*, 177 U. S. 183; *Compagnie Française v. Louisiana*, 186 U. S. 380; *Jacobson v. Massachusetts*, 197 U. S. 11; *Williams v. Arkansas*, 217 U. S. 546).

No power has been conferred on the federal government by the Constitution of the United States whereby the government may establish mere police regulations within the jurisdiction of any state. And the federal government can claim no power not granted by the Constitution; hence federal authority is limited to a simple prohibition on the states as against any invasion of the sphere of national sovereignty.

Thus, it would seem to be well settled that the police powers of the states extend to the regulation of those callings which closely concern the public health. And further, it would seem clear that legislation which simply defines the qualifications, and provides for the licensure, of one who attempts to practice medicine within the jurisdiction of any given state is something confessedly belonging to the domain of the police power as vested in that state. Hence it is that no power can be found vested in Congress authorizing a federal regulation of the practice of medicine within the confines of any one or all of the several states. This view is evidently held by the United States Supreme Court in all the cases involving the state control of the practice of medicine which have come before it. (*Dent v. West Virginia*, 129 U. S. 114; *Hawker v. New York*, 170 U. S. 189; *Reetz v. Michigan*, 188 U. S. 505; *Watson v. Maryland*, 30 Sup. Ct. Rep. 644).

The Regeneration of the Blood After Splenectomy

To the Editor:—The editorial on this subject (THE JOURNAL, Nov. 15, 1913, p. 1816) gives such an incorrect idea of the present state of our knowledge concerning this subject that I feel compelled to call attention to certain discrepancies in the data on which the editorial is based. An extensive study of the changes in the blood following splenectomy in the normal dog, carried out under my direction during the past two years (Pearce, R. M.: The Relation of the Spleen to Blood Destruction and Regeneration and to Hemolytic Jaundice, Papers I-VII, *Jour. Exper. Med.*, 1912, xvi, 363, 375, 758, 769, 780; 1913, xviii, 487, 494; an eighth paper is now in press [*Jour. Exper. Med.*, December, 1913]) has demonstrated conclusively that the spleenless animal always develops an anemia which is progressive for several weeks, usually reaching its period of greatest severity after from three to six weeks and then gradually improving with a return to normal after from three to five months. This is a constant occurrence, demonstrated again and again, in many animals. In Vogel's work (from Asher's laboratory), which is the basis of the editorial opinion, a diet with high iron content was commenced eighteen days after splenectomy. As the condition of the blood improved, it was assumed that this improvement was due to the high iron content of the diet. This conclusion rests on a single experiment on a splenectomized dog with a normal dog as control. There is no control of the experiment by a study for a long period of the blood-picture in a splenectomized animal on an ordinary or low iron diet. The administration of a diet rich in iron was begun, not immediately after splenectomy, but after eighteen days, when, according to observations, regeneration of the blood usually begins. The question naturally arises, Was the improvement in Vogel's single experiment due to diet or to the regeneration naturally occurring at this time? The theory that one function of the spleen is to regulate the iron metabolism is most plausible, but it should have more definite basis than that offered by a single experiment. In our own work on iron metabolism in the splenectomized dog, on low and high iron diet, though four splenectomized animals have thus far been used, we have on account of the discordant results of chemical analysis reached no definite conclusions.

On the basis of Banti's theory (that in certain forms of splenomegaly the accompanying anemia is due to a hemolysin of splenic origin) splenectomy, in that improvement follows the procedure, may have some justification; but in pernicious anemia the justification is not so clear and the results thus far reported are by no means uniformly favorable. If it is done as a last resort and a forlorn hope it may perhaps be countenanced, but it should be definitely understood that the procedure is not in accord with such experimental evidence as

we have at hand. The problems concerning the spleen in its relation to blood destruction and regeneration are exceedingly complex, and the experimental and clinical evidence often paradoxical; but until more definite knowledge is at hand splenectomy in anemia, not accompanied by splenomegaly as in the Banti type, should not be urged as a procedure having a definite scientific basis.

R. M. PEARCE, M.D., Philadelphia.

[COMMENT.—We are glad to print the foregoing communication from Professor Pearce and to call attention in this way to his researches on the relation of the spleen to the blood. The question of the relation of the spleen to iron metabolism is, it must be frankly admitted, still *sub judice*. With respect to the final contention in the foregoing communication we believe that we were quite as cautious in drawing any permanent conclusions as Professor Pearce has been. Our object was essentially to give prominence to a suggestion which is not entirely devoid of an experimental background. The limitations of our knowledge in this field were plainly referred to.—ED.]

"Burnam's Test" for Formaldehyd: a Question of Priority

To the Editor:—Hugh Cabot and O. R. T. L'Esperance in an article entitled "The Excretion of Formaldehyd by the Kidneys of Patients Taking Hexamethylenamin, a Study of Burnam's Test" (*Boston Med. and Surg. Jour.*, Oct. 24, 1912, p. 577), and later B. F. Jeness in an article entitled "Burnam's Test for Formaldehyd in the Urine" (THE JOURNAL, March 1, 1913, p. 662) described in detail a method for determining small quantities of formaldehyd in the urine, calling this method, both in the title and in the text, "Burnam's test." This test consists in the use of dilute solutions of phenylhydrazin hydrochlorid, sodium nitroprussid and sodium hydroxid. It is a delicate color reaction, for all practical purposes specific for formaldehyd and very sensitive, revealing the presence of minute quantities of formaldehyd, even in albuminous fluids, such as milk, nephritic urine, etc.

This so-called "Burnam's test" was discovered by Rimini (*Ann. di Farmacol.*, 1898, p. 97), and has been in use extensively ever since as "Rimini's test." I have used it for years in my formaldehyd work (see *Tr. Chicago Path. Soc.*, 1912), my attention having first been called to it in a paper by Fenton (*Tr. Chem. Soc.*, 1907, xci, 693), who speaks of "Rimini's test" as one of the most reliable methods for detecting small quantities of formaldehyd. In looking the matter up, I find "Rimini's test" given as a standard method in several lexicons and encyclopedias of practical chemistry.

Why deprive the discoverer of this important method of the distinction of having his name attached to it? It is "Rimini's test" and not "Burnam's test," and should be so named by all who use it — including Burnam and his coworkers.

A. C. CROFTAN, M.D., Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FACIAL SPASM

To the Editor:—What is the probable cause of involuntary unilateral twitching (spasm) of the pyramidalis nasi muscle?

Spasms come on frequently during the day, last five minutes or so and stop. Embarrassment results from the grimacing. There is no discoverable cause in ear, nose or throat. What portion of the facial nerve is probably affected, and what treatment could you suggest? Q., Walla Walla, Wash.

ANSWER.—The etiology of facial spasm is still an obscure chapter in medicine. Owing first to the intimate relationships existing between psychic activity and facial expression and, secondly, because of the many connections between the facial nerve and numerous sensory nerves, we recognize two general causes, psychic and reflex, for the production of involuntary facial twitching. To the psychic variety belongs the large group of facial ties, called also tic convulsif, conditions having a psychogenic basis and consequently curable only by psychic means. Meige and Feindel have published an interesting book (Tics and Their Treatment, translated by S. A. K. Wilson; New York, William Wood & Co., 1907, 83), the classic on this subject, which contains not only the etiology and the varied symptomatology of tic convulsif, but also a detailed treatment of this type of facial unrest. With reference to reflex facial spasm, every organ in contiguity to the face and supplied by the trigeminus or other cranial nerve, and even organs remote from the facial territory, must be carefully examined and any existing pathologic condition remedied. Oppenheim, for instance, has seen the disappearance of spasm in the pyramidalis nasi by removal of enlarged tonsils; others have had the same result by correcting uterine displacements and relieving genital disorders. Rarely facial spasm is caused by direct compression of the facial nerve by either tumor or aneurysm, in which event the underlying condition must be treated. In a few cases localized facial spasm is produced directly by the occupation which the patient follows, as for instance the spasm in orbicularis and nasal muscles occurring in watchmakers. In the majority of cases, however, a definite anatomic basis is not demonstrable. Last but not least, there is a slight twitching, more felt than seen, in the orbicularis and nasal muscles which results from states of fatigue and nerve-strain and is frankly neurasthenic in character. In these cases the treatment of neurasthenia will be indicated. It is impossible to give definite directions for the treatment of a symptom having so many possible causes. In a general way it will be necessary to decide whether the case is one of tic or true spasm. Tic is treated by psychotherapy, while the facial spasm must be treated according to the nature of the lesion, depending on the origin and pathology of the symptom—from the performance of a brain operation to the touching up of the nasal mucosa with silver nitrate.

ARTICLES ON DYNAMIC ILEUS

To the Editor:—Please furnish me with all available literature on the subject of dynamic ileus.

EDWIN D. WATKINS, M.D., Memphis, Tenn.

ANSWER.—The following list includes the most recent articles on this subject:

Vaccari, L.: Postoperative Paresis of the Intestines, *Policlinico*, Jan. 28, 1912.

Dieffenbach, W. H.: Electric Treatment of Intestinal Obstruction and Postoperative Paralysis of the Bowel, THE JOURNAL, April 1, 1911, p. 958.

Illoway, H.: Hysteric Paralysis of Intestines, *Arch. f. Verdauungskr.*, 1912, No. 3; Hysteric Paralysis of Somewhat Rare Form, *Arch. Diagnosis*, October, 1911.

McElhaney, C. W.: Ileus Paralyticus Relieved by Operation, *Med. Fortnightly*, March 10, 1911.

MacMillan, J. A.: Acute Postoperative Paresis of Intestine, *Proctologist*, September, 1912.

Pilcher, J. T.: Experiences with Hormonal in Treatment of Acute and Chronic Intestinal Paresis, *New York State Jour. Med.*, November, 1912.

Pettenkofer, W.: Electric Treatment of Postoperative Paralysis of the Intestines, *München. Med. Wchnschr.*, Nov. 5, 1912.

Schubert, G.: Postoperative Ileus, *Ztschr. f. Geburtsh. u. Gynäk.*, 1913, lxxiii, No. 2.

Hartwell, J. A.: Intestinal Obstruction, *Jour. Exper. Med.*, August, 1913; abstr., THE JOURNAL, Aug. 30, 1913, p. 710.

Renton, J. C.: Intestinal Obstruction, *Edinburgh Med. Jour.*, September, 1913; abstr., THE JOURNAL, Oct. 4, 1913, p. 1330.

Adams J. E.: Intestinal Obstruction, *Practitioner*, London, September, 1913.

Bundschuh, E.: Volvulus of the Large Intestine, *Beitr. z. klin. Chir.*, 1913, lxxxv, No. 1.

Sweet, J. E.: High Intestinal Obstruction, Postoperative Ileus and Acute Pancreatitis, *Pennsylvania Med. Annals*, April, 1913.

THE VALUE OF ECHINACEA

To the Editor:—Is there any great value in echinacea, and if so in what does it consist? I find a good many physicians using it who seem to think that it possesses value as preventing the formation of pus, and in perhaps getting rid of pus after it has formed. In the many cases which I have seen in which it was used, I have been unable to satisfy myself that any effect whatever was produced, and I have looked on it, therefore, as entirely worthless. Some physicians give it by the stomach, and some hypodermically, the latter claiming great increase of virtue when it is thus given.

SURGEON.

ANSWER.—Echinacea has been claimed to be a "specific" for rattlesnake bite, syphilis, typhoid fever, malaria, diphtheria and hydrophobia. Later enthusiasts have credited it with equally certain curative effects in tuberculosis, tetanus and exophthalmic goiter, and with power of retarding the development of cancer. On the basis of the available evidence the Council on Pharmacy and Chemistry decided that echinacea

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was not worthy of recognition as a drug of probable value. Accordingly it voted not to describe the drug in New and Nonofficial Remedies (THE JOURNAL, Nov. 27, 1909, p. 1836).

So far as can be learned no reliable evidence for the claims made for this drug has been presented since the Council decided that the available evidence did not entitle it to a place in New and Nonofficial Remedies.

DOES SMALL-POX PROTECT AGAINST BOVINE VACCINATION?

To the Editor:—In THE JOURNAL, Oct. 25, 1913, p. 1556, in answer to this question of Dr. R. P. Stark, you answer, "Yes." I do not know on what data you found your answer, as opportunities to try the experiment must seldom present themselves. No physician would be apt to urge vaccination on a person who has had small-pox; but I once had an opportunity to try it, and the result was quite a surprise both to the patient and to myself. In 1880 I was a vaccinator of the board of health during an epidemic in this city. In the course of my wanderings among the dwellers in the tenement-houses, offering them vaccination, I came across a woman of about 50, deeply pitted from an attack of variola sustained while a child in Ireland. In joke, I offered to vaccinate her. To my surprise she consented. I explained to her that it might take, and if so, would probably make her quite sick, and assured her that as a prophylactic she had no need of it, as she was already better protected against another attack than any vaccination I could give her. But she was very anxious to try the experiment and so I vaccinated her. After about a week she developed as fine a primary as I have ever seen, with considerable malaise, fever, etc., which ran the usual course.

E. HOCHHEIMER, M.D., New York.

ANSWER.—This case is, of course, somewhat exceptional, but other instances of a like nature have been reported. That the development of vaccinia is prevented by the presence of an active small-pox is shown by the fact that vaccination does not take when performed before or during the primary fever of small-pox. It is not impossible that an immunity should disappear after a long period of time.

OPERATION FOR LACERATED CERVIX—TREATMENT IN PARALYSIS OF LEGS AFTER POLIOMYELITIS

To the Editor:—1. What is the approved method of dealing with a lacerated cervix at time of delivery?

2. Please name other measures of benefit besides persistent massage and hygiene for paralysis of both legs in a young child following poliomyelitis. H. T.

ANSWER.—1. The operation should be postponed to the latter part of the puerperium unless hemorrhage is serious, in which case immediate suture should be resorted to.

2. Endeavor should be made to induce the child to use vigorously any muscles which remain unparalyzed. Sometimes the slowly interrupted galvanic current will excite contractions in the larger muscles, and if this is the case it should be used for a few minutes twice a day. Any tendency to deformity should be opposed by appropriate apparatus. Foot-drop is most apt to occur, and can usually be prevented by a simple Taylor club-foot brace. If severe contractions develop rapidly, conservative tenotomy and redressment may be required. After about two years of conservative treatment, the case will be ready for radical operation according to the indications, tendon transplantation if possible, joint fixation if necessary. The object, of course, is to enable the patient to walk without apparatus, although this object cannot always be attained.

ARTICLES ON ABDERHALDEN'S SERODIAGNOSIS

To the Editor:—Please describe the technic for the Abderhalden reaction especially as applied to organic diseases. I want to try it out with the different forms of epilepsy and insanity.

H. M. FRANCISCO, M.D., Skillman, N. J.

ANSWER.—The Abderhalden test as applied to the diseases mentioned is performed with a technic based on that for pregnancy. THE JOURNAL has published the following articles on the subject:

The Present Status of Abderhalden's Serodiagnosis, editorial, THE JOURNAL, Aug. 16, 1913, p. 493.

Fauser, A.: Serodiagnosis by Abderhalden's Technic, Deutsch. med. Wchnschr., Feb. 13, 1913; abstr., THE JOURNAL, March 22, 1913, p. 949.

Judd, C. W.: The Serum Diagnosis of Pregnancy, THE JOURNAL, June 21, 1913, p. 1947.

Schwarz, Henry: Serodiagnosis of Pregnancy, THE JOURNAL, Aug. 16, 1913, p. 484.

Abderhalden's Test in Cancer, editorial, THE JOURNAL, Oct. 18, 1913, p. 1461.

The Blood Test for Pregnancy, THE JOURNAL, Dec. 7, 1912, p. 2073.

Technic of Abderhalden's Serodiagnosis for Dementia Praecox, Queries and Minor Notes, THE JOURNAL, May 31, 1913, p. 1727.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, Jan. 13. Chairman, Dr. W. H. Sanders, Montgomery.

ARIZONA: Phoenix, January 3. Sec., Dr. John Wix Thomas, 200 National Bank of Arizona Bldg., Phoenix.

COLORADO: State Capitol, Denver, January 6. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DELAWARE: State Society and Homeopathic, Dover and Wilmington, Dec. 9-11. Secretary of the Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

ILLINOIS: The Coliseum Annex, Wabash Ave. and 16th St., Chicago, Jan. 14-16. Acting Sec., Amos Sawyer, Springfield.

INDIANA: Room 56 State House, Indianapolis, Jan. 13-15. Sec., Dr. Wm. T. Gott, 56 State House, Indianapolis.

IOWA: The Capitol Bldg., Des Moines, January 6-8. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.

KENTUCKY: Armory, Louisville, Dec. 11-13. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: Regular, 1211 Cathedral St., Baltimore, Dec. 9. Sec., Dr. J. McP. Scott, Hagerstown; Homeo., St. Luke's Hospital, Baltimore, Dec. 15-16. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave., Baltimore.

MINNESOTA: State University, Minneapolis, January 6-9. Sec., Dr. Thos. S. McDavitt, 814 Lowry Bldg., St. Paul.

NEW HAMPSHIRE: State House, Concord, January 6-7. Regent, Mr. H. C. Morrison, State House, Concord.

NEW MEXICO: Santa Fe, Jan. 12. Sec., Dr. W. E. Kaser, East Las Vegas.

NORTH DAKOTA: Grand Forks, January 6. Sec., Dr. G. M. Williamson, Grand Forks.

OHIO: Columbus, Dec. 9-11. Sec., Dr. Geo. H. Matson, State House.

OKLAHOMA: Oklahoma City, Jan. 13. Sec., Dr. John W. Duke, Guthrie, Okla.

OREGON: Portland, January 6-8. Sec., Dr. L. H. Hamilton, Medical Bldg., Portland.

SOUTH DAKOTA: Capitol Bldg., Pierre, Jan. 13. Sec., Dr. Park B. Jenkins, Waubay.

VERMONT: Montpelier, Jan. 13-15. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, Dec. 16-19. Sec., Dr. Herbert Old, Norfolk.

WASHINGTON: Spokane, January 6-12. Sec., Dr. F. P. Witter, Traders Block, Spokane.

WISCONSIN: Madison, Jan. 13. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

Nebraska August Report

Dr. H. B. Cummins, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, August 13-14, 1913. The number of subjects examined in was 8; percentage required to pass, 75. The total number of candidates examined was 16, all of whom passed. Eight candidates have been granted licenses through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Bennett Medical College	(1913)	77.5, 80.4
Chicago College of Medicine and Surgery	(1913)	79.6
Hahnemann Medical College and Hospital, Chicago,	(1913)	84.6, 85, 85.
Hering Medical College, Chicago	(1913)	90.9
Hamline University	(1904)	78.6
University Medical College, Kansas City	(1913)	84.6
John A. Creighton Medical College	(1912)	76, 80.1; (1913) 79.9, 80.9, 81.
University of Nebraska	(1912)	85.9
Meharry Medical College	(1912)	79.2

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Barnes Medical College	(1907)	Illinois
Drake University	(1911)	Iowa
State University of Iowa, College of Medicine	(1907)	Iowa
American Medical College, St. Louis	(1913)	Tennessee
Eclectic Medical University, Kansas City	(1911)	Arkansas; (1912) Arkansas.
University Medical College, Kansas City	(1904)	Kansas
John A. Creighton Medical College	(1912)	S. Dakota

Ohio July and October Reciprocity Reports

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports that at the meetings held July 7 and October 14, 1913, twenty candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Denver and Gross College of Medicine	(1909)	Colorado
University of Colorado	(1911)	Colorado
George Washington University	(1902)	Dist. Colum.
American Medical Missionary Coll., Chicago	(1909)	Michigan

Rush Medical College, Chicago	(1913)	Nebraska
University of Illinois	(1909) Illinois; (1912)	Illinois
Indiana University	(1908)	Indiana
Keokuk Medical College	(1904)	Iowa
University of Iowa, College of Medicine	(1913)	Iowa
University of Louisville	(1912) Kentucky; (1912)	W. Virginia
University of Michigan	(1912)	Michigan
St. Louis University	(1905)	Missouri
Washington University, St. Louis	(1912)	Illinois
Long Island College Hospital, N. Y.	(1899)	New York
University of Buffalo	(1897)	New York
Cleveland Homeopathic Medical College	(1909)	New York
Ohio Wesleyan University	(1911)	Illinois
Western Pennsylvania Medical College	(1908)	Penna.

One candidate, a graduate of the University of Naples, 1908, was examined, and passed with a grade of 86.9.

Arizona October Report

Dr. John Wix Thomas, secretary of the State Board of Medical Examiners of Arizona, reports the written and practical examination held at Phoenix, Oct. 7-8, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 13, of whom 7 passed and 6 failed, including 3 osteopaths. Eight osteopaths were licensed through exemption. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Colorado	(1912)	77.7
Bennett Medical College	(1912)	80.4
Chicago Medical College	(1901)	84.1
Indiana University	(1912)	80.6
University of Louisville	(1909)	81.1
College of Physicians and Surgeons, Baltimore	(1890)	75.4
National Medical College, Mexico City	(1896)	74.7*

* Credit allowed for years of practice.

FAILED

Atlanta School of Medicine	(1907)	63.1
John A. Creighton Medical College	(1905)	70.6
Louisville Medical College	(1893)	65.2

Colorado October Report

Dr. D. A. Strickler, secretary of the Colorado State Board of Medical Examiners, reports the written examination held at Denver, Oct. 7, 1913. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 10, of whom 9 passed and 1 failed. Twenty-nine candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Colorado, (1912) 75.7; (1912) 79.7; (1912) 89.5; (1913) 76.2; (1913) 80.1; (1913) 81.2; (1913) 83.4.		75.8;
Harvard Medical School	(1913)	82.6

FAILED

Eclectic Medical University, Kansas City	(1910)	59.5

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado	(1912)	New Mexico
Hahnemann Medical College and Hospital, Chicago	(1884) (1912) Illinois.	Indiana;
Northwestern University	(1910) Illinois; (1912)	Illinois
Rush Medical College	(1909)	Illinois
University of Illinois	(1906)	Illinois
Medical College of Indiana	(1905)	Indiana
Keokuk Medical College	(1894)	Iowa
Kansas Medical College	(1910)	Kansas
University of Louisville	(1905)	Oklahoma
Baltimore Medical College	(1891)	Penn.
College of Physicians and Surgeons, Baltimore	(1908)	W. Virginia
Detroit College of Medicine	(1899)	Michigan
Ensworth Medical College, St. Joseph	(1905)	Indian Ter.
Kansas City Medical College	(1905)	Kansas
Missouri Medical College	(1896) Illinois; (1899)	Illinois
St. Louis Medical College	(1890)	New Mexico
St. Louis University	(1905)	Missouri
University Medical College, Kansas City	(1898)	Missouri
Washington University	(1912)	Missouri
University and Bellevue Hospital Med. College	(1900)	New Mexico
Cleveland Homeopathic College	(1899)	Ohio
Cleveland Medical College	(1897)	Nebraska
Eclectic Medical Institute, Cincinnati	(1891)	Penn.
Medico-Chirurgical College, Philadelphia	(1887)	Penn.
University of Pennsylvania	(1911)	Penn.
Woman's Medical College of Pennsylvania	(1904)	Dist. Colum.

The following questions were asked:

ANATOMY

1. Explain the bony formation of the elbow joint, naming the bony prominences which can be palpated, with their normal relationship. 2. Discuss the construction of the cranium, naming bones and stating how its anatomical formation tends to lessen the force of external violence. 3. Describe the inguinal canal. 4. Give complete anatomy of the sternomastoid muscle. 5. Define flexion, extension, adduction and rotation; mention muscles with attachments which perform these functions. 6. Draw a chart illustrating the blood-supply of the uterus with comments. 7. Trace the course of the main arterial trunk of the lower extremity from the bifurcation of the aorta to the popliteal space. 8. Describe the portal system of veins. 9. What is the thoracic duct? Give origin and course. 10. What is the fissure of Rolando, its significance, and how may it be located on the cranium?

PHYSIOLOGY

1. Give the function of the liver, and of the bile. 2. Describe the functions of the skin, mucous and serous membranes. 3. What are the characteristics of normal urine? 4. Give functions of pneumogastric nerve. 5. What digestive ferments act upon the starches in food, and how? 6. Describe the gross and minute structure of the heart, veins and arteries, giving the bearing on their physiological functions. 7. Name four reflex centers situated in the lumbar enlargement of the spinal cord, with their functions. 8. What do you understand by metabolism? 9. Describe and give the function of the pancreas. 10. Name five ductless glands and define what you understand by internal secretions.

CHEMISTRY

1. Quantitative test for albumin and test for albumose. 2. What constituents of the blood carry oxygen and carbon dioxid? 3. What are the chief chemical constituents of bile? 4. Formula of calomel, and corrosive sublimate, urea, chloral hydrate, sodium borate. 5. What is the chemical reaction when strychnin sulphate is dissolved in an alkaline solution? 6. Define an acid salt and a ketone. 7. What is the chemical composition of human milk in percentages? 8. Give the method of detecting potassium cyanid in the body. 9. Give the difference between a carbohydrate and a hydrocarbon. 10. Write the reaction which occurs when hydrochloric acid, zinc and water act in the presence of arsenic-bearing tissue.

TOXICOLOGY

1. If you were called to see a case with the following symptoms what would be your diagnosis? Headache, imperfect vision, dilated pupils, difficulty in swallowing, drowsiness, tingling sensation along the nerves, gradual and complete paralysis of extremities, extending finally to the muscles of respiration, and patient dies of apnea. 2. What would be your treatment? 3. Give the symptoms of poisoning by atropin. 4. Give treatment of poisoning by atropin. 5. Give symptoms of poisoning by strychnia. 6. Give treatment of poisoning by strychnia. 7. Give symptoms of poisoning by tartar-emetic. 8. Give treatment of poisoning by tartar-emetic. 9. Give post-mortem appearance of poisoning by tartar-emetic. 10. Define toxicology.

SYMPTOMATOLOGY

1. Describe the Widal reaction and tell its uses. 2. Give the symptoms, physical signs and course of a case of catarrhal pneumonia. 3. What are the symptoms of peptic ulcer? 4. What are the symptoms and signs of dilatation of the stomach? 5. Name the causes of ascites and tell how it may be discovered. 6. Describe a case of pulmonary emphysema. 7. Give the symptoms and signs of acute pleurisy with effusion. 8. Give the causes and symptoms of amyloid disease of the kidneys. 9. Describe a case of hysteria. 10. Give the causes, symptoms and signs of dilatation of the heart.

PATHOLOGY

1. Differentiate between benign and malignant tumors. 2. Describe the forms of malignant tumors. 3. What pathologic changes may result from cerebral hemorrhage? 4. Describe hypertrophic cirrhosis of the liver. 5. What is the pathology associated with atrophic cirrhosis of the liver? 6. Describe hemorrheal arthritis. 7. What is an embolus? State the sources of emboli and the sequelae of embolism. 8. What is ischemic paralysis? 9. What are cysts? 10. Give a general explanation of the pathology of edema.

SURGERY

1. Describe the different types of club-foot. 2. What is the pathology of the most common type of dislocation of the shoulder? 3. Give the symptoms and diagnosis of acute appendicitis. 4. What are the structures which would be divided in an amputation through the middle of the forearm? 5. What part of the fibula is most frequently fractured, and what are the symptoms of fracture in this region? 6. Give the diagnosis and pathology of chronic enlargement of the prostate. 7. What are the symptoms and diagnosis of stone in the urinary bladder? 8. What is Pott's fracture? Describe the symptoms. 9. What are the symptoms of acute suppurative arthritis of the knee-joint? 10. What are the symptoms of Pott's disease?

OBSTETRICS

1. Name possible sources of puerperal hemorrhages and treatment of each. 2. What would lead you to suspect extra-uterine pregnancy? 3. In breech presentation describe the different methods of delivering the aftercoming head. 4. You are called upon to take care of a woman in labor; describe how you would proceed as regards sterilization of yourself. 5. Give symptoms of rupture of the uterus. 6. How may you prevent perineal lacerations? 7. Outline treatment for the prevention of ophthalmia neonatorum. 8. Discuss the preventive treatment of eclampsia. 9. Give treatment of eclampsia. 10. Give the mechanism of L. O. A.

Scope of Preventive Medicine.—Preventive medicine means more than vaccination against disease, disinfection and sanitation. It means as well the study of heredity and practice of eugenics, subjects which every physician should consider who is anxious to contribute his share to the prevention of disease and improvement of the race.—L. M. Mervin Maus, in *Chicago Med. Recorder.*

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Book Notices

INTERSTITIAL GINGIVITIS AND PYORRHEA ALVEOLARIS. By Eugene S. Talbot, M.S., D.D.S., M.D. Cloth. Price, $4. Pp. 340, with 102 illustrations. Toledo, Ohio: The Ransom and Randolph Company, 1913.

Interstitial gingivitis or pyorrhea alveolaris is frequently regarded by the dentist as a mere local disease which reveals itself by the suppurative changes in the gums, and is to be treated chiefly by local remedies. The developmental relations of the disease have appealed strongly to the author, however, in connection with his studies in development and degeneracy. He looks at it as a manifestation of constitutional tendencies, having its origin in a disease of the alveolar process of the tooth, which causes the gum to retract; the infection results as a secondary process.

In Talbot's view interstitial gingivitis is divided into two stages: In the first there is an inflammatory process in the bone and teeth leading to absorption of the alveolar process and exfoliation of the teeth; in the second, the gums become infected with pyogenic organisms which cause the production of pus. In the first stage the etiologic agents are toxic irritants which reach the tooth through the blood, in the second the agents of infection attack the gums from the mouth cavity. Attacking the disease by purely local measures, especially disinfectants, can only palliate the effects without reaching the cause of the disease. Hence the author's therapy includes, in addition to constitutional measures, local methods that are directed to the initial stage of the disease and aim to excite a healthy hyperemia by the application of iodin to the gums and vigorous massage with the tooth-brush. In applying iodin he is incidentally using a powerful disinfectant, so that his treatment meets the indications drawn from the infective nature of the later stages of the disease. Vaccine treatment does not meet favor in the author's eyes. He urges that the vaccine is not likely to correspond to the pyogenic germ that causes the suppuration. At any rate such treatment could affect only the suppurative lesions and not the underlying bone disease.

Whether or not some of the experimental work in this volume will fulfil the strict requirements of scientific accuracy may be questioned. For instance, observations on the degree of acidity of urine are cited with no data as to daily quantity; in which case reliable conclusions can hardly be drawn. Other criticisms may be made, but the fact remains that a view of the relations of the jaws and teeth to the nutrition and metabolism of the whole organism is presented which is worth careful consideration. If mere oral sepsis, as shown by the severer forms of pyorrhea, is capable, as Hunter believes, of producing a grave form of anemia classed among the pernicious forms, it behooves us to know all the contributing causes of this condition of the mouth.

A TEXT-BOOK OF MIDWIFERY FOR STUDENTS AND PRACTITIONERS. By R. W. Johnstone, M.A., M.D., F.R.C.S., Assistant to the Professor of Midwifery in the University of Edinburgh. Cloth. Price, $3.25 net. Pp. 485, with 264 illustrations. New York: The Macmillan Company, 1913.

This addition to the Edinburgh Medical Series is a volume in every way worthy of its predecessors. It is prepared particularly to meet the needs of students in a book of convenient size containing all essential information; sufficient attention is given to practical points and to the discussion of the management of normal and abnormal cases to bring the work up to the demands of those actually engaged in the practice of medicine. The introductory material on anatomy and physiology is followed by a consideration of the physiology of pregnancy, labor in the various presentations, the physiology of the puerperium, and the pathology of pregnancy, of labor and of the puerperium. Puerperal infection is the chief topic in the last section, though it includes also interesting chapters on the newborn and on infant feeding. Finally, operative obstetrics is discussed, and the volume is completed by a carefully compiled index. The material presented is given concise expression, and the practical phase of the subject is emphasized. Thus, the complicated theme of the development of the early embryo and placenta has been simplified by the exclusion of references to comparative embryology. Brief references to the literature have been made here and there for the convenience of the student, but no elaboration of a bibliography has been undertaken. On its technical side description of the simple and the more common operative measures has been detailed, while procedures suitable only to performance in hospitals or by specialists have been more briefly set forth. The volume gives compact expression to the Edinburgh School of Midwifery.

A TEXT-BOOK OF SURGERY FOR DENTAL STUDENTS. By G. Percival Mills, M.B., B.S., F.R.C.S., Surgeon to the Royal Orthopedic and Spinal Hospital, Birmingham, and Humphrey Humphreys, M.B., Ch.B., L.D.S., Demonstrator on Dental Surgery at the Birmingham Dental Hospital. Cloth. Price, $3.50 net. Pp. 340, with illustrations. New York: Longmans, Green & Co., 1913.

This book is for students and practitioners of dental surgery. In view of the fact that the development of modern bacteriology has thrown much light on the relationship of the mouth to the general health, bacteriology has been treated somewhat fully. The chapter on this subject contains probably all that it is necessary for a dentist to know of bacteriology, provided that he will attempt to do only such things as his knowledge warrants. If he is to encroach on medical fields, he will find that more information is necessary for him than is contained in this book. The pathologic and clinical aspects of inflammation are considered in a simple manner, but the discussion on gangrene leaves much to be desired. Thus the treatment of gangrene would seem to concern only the toes and feet, since no mention is made of noma and related diseases of the mouth. The discussions on tetanus, tuberculosis, actinomycosis and syphilis are likewise very poor. Thus, in the advice regarding the treatment of syphilis, in no instance is the statement made that the patient should be referred to a physician. Note also the following statement: "A point of particular importance is the time when it is safe to allow a syphilitic patient to marry. The general rule followed is twelve months after all manifestations of the disease have disappeared." No mention is made of the Wassermann reaction. There are fairly good discussions on tumors and cysts; on goiter; a chapter on diseases of the eye, and other items whose relation to dentistry is not very apparent.

GENITO-URINARY DIAGNOSIS AND THERAPY FOR UROLOGISTS AND GENERAL PRACTITIONERS. By Dr. Ernst Portner, Specialist for Urology, Berlin. Translated by Bransford Lewis, M.D., B.Sc., Professor of Genito-Urinary Surgery, Medical Department of St. Louis University. Cloth. Price $2.50. Pp. 221 with 43 illustrations. St. Louis: C. V. Mosby Company, 1913.

This book presents in a concise form a practical treatment for genito-urinary diseases. It deals entirely with therapy, furnishing the information that the practitioner most desires and needs in the treatment of urinary cases. Pathology, symptoms and diagnosis are mentioned only occasionally and then only to bring out or to drive home a therapeutic point. There is no padding and no attempt is made to give the history of any method of treatment, nor is mention made of a large number of more or less obsolete therapeutic methods. The advances made in the last few years in the study of the gonococcus are discussed fully. The diagnosis and cure of gonorrhea by the use of the gonorrhea complement-fixation test, and the allergy reactions are fully described.

THE ORIGIN AND NATURE OF LIFE. By Benjamin Moore, M.A., D.Sc., F.R.S., Johnston Professor of Biochemistry, University of Liverpool. Cloth. Price, $0.50. Pp. 256. New York: Henry Holt & Co.

All those whose interest in this subject was reawakened by Schäfer's presidential address last year to the British Association will welcome this little book. Like Schäfer, Moore also believes that "life probably arose as a result of the operation of causes which may still be at work to-day causing life to arise afresh." He briefly discusses the genesis of electrons and atoms, chemical evolution in the suns, chemical compounds on earth, building materials for living matter and evolution of colloids, the study of which in the last decade has become the center of feverish industry. Coming to the origin of life on

earth he holds that, as the evidence of geology shows, life appears in a cooling planet as soon as temperature will permit. At first it is evident that spontaneous production of such a thing as even a bacterium or other unicellular organism would by no means solve the problem. The new-born cell would have no organic pabulum and must perish. Inorganic colloids must first develop and in turn one of them must begin to evolve, not a living cell, not even a complex protein, carbohydrate or fat, but some quite simple form of organic molecule which must possess the property of transforming sunlight or some other form of radiant energy into chemical energy. Later this simple organic compound would begin to condense and form more complex organic molecules; and finally complexes of inorganic and organic matter would come into existence as crystallocolloids. Thus without any hiatus life would be led up to and inaugurated.

STUDIES IN CANCER AND ALLIED SUBJECTS. Conducted under the George Crocker Special Research Fund at Columbia University. Volume I—The Study of Experimental Cancer. A Review. By William H. Woglom, M.D., Assistant Professor, Columbia University. Cloth. Price, $5 net. Pp. 288, with illustrations. Volume III—From the Departments of Zoology, Surgery, Clinical Pathology and Biological Chemistry. Price, $5 net. Pp. 308, with illustrations. New York: Columbia University Press, 1913.

The first volume contains an extensive and valuable review of the more recent experimental work on cancer. Quite a number of the articles in the third volume have been printed

Proportion of print and blank paper.

before. They bear more or less directly on the problems of cancer and show that cancer is being investigated by special workers in many departments of Columbia University. As pointed out in the notice of the second volume of this series of reports there are serious objections to the form of the book. The volumes are unwieldy and too large for many book-shelves; the blank margins are so unusually and needlessly wide that only a quarter of the page is occupied by print; three-quarters of the paper is unused. The third volume weighs 4½ pounds; hence about 2 pounds of good, white paper are wasted in every volume to no other purpose than annoyance to the reader and librarian and increased expense for postage and expressage. How will Columbia University justify this foolish waste of the George Crocker Special Research Fund?

COPROSTASIS: ITS CAUSES, PREVENTION AND TREATMENT. By Sir James Sawyer. Cloth. Price 2 shillings 6 pence. Pp. 74. Birmingham: Cornish Brothers, 1912.

Coprostasis is a rather stately Greek title for the familiar subject of constipation. The book consists of two lectures on the subject, and lest one might forget what he said in the first the author repeats much of it nearly word for word in the second. Line upon line and precept on precept is a good proverb, but hardly suited to the temper of the readers of modern medical literature, who are accustomed to look for something new. Sir James deprecates the use of drugs, but when ordinary methods, of which he recommends diet, exercise, and a suitable position during defecation, are exhausted, he resorts to them; and drawing from his own extended experience he recommends aloes as if it were almost a personal discovery. The author is fond of honey; he tells us that it should be pure, that in his county excellent honey is furnished by the Warwickshire Beekeepers' Association, and that it may be spread on bread. He also permits the use of ginger-bread and biscuits, and even suggests making them with oatmeal instead of wheat flour. Further he says, "As to beverages, either oatmeal water or prune tea are helpful and may be drunk hot, warm or cold." All this is, to be sure, very good advice, but the reader is continually tantalized with the hope that some new method will soon be mentioned. Even his favorite crouching position in defecation is not new. It is bad enough to have had such stuff once encumbering the pages of the *Lancet*, but to publish it in book-form is too much. The author highly recommends the enema, but says that it can be given properly only through an O'Beirne's tube which, it seems, will extend through the sigmoid flexure. We wonder whether he has ever confirmed this by the Roentgen ray! Other workers appear to have failed in this attempt. There are perhaps some important hints in the book, but we have failed to find them. It would have saved trouble to the author and the reader to have printed them separately and to have thrown the rest away.

APPLIED BACTERIOLOGY FOR NURSES. By Charles F. Bolduan, M.D., Assistant to the General Medical Officer, Department of Health, New York City, and Marie Grund, M.D., Bacteriologist, Research Laboratory, Department of Health, New York City. Cloth. Price, $1.25 net. Pp. 166, with 62 illustrations. Philadelphia: W. B. Saunders Company, 1913.

The subject of applied bacteriology is presented clearly and concisely in this book, which is written in an interesting and readable style. There are two main heads—general bacteriology and special bacteriology. Under the first are chapters on the character of bacteria, the methods of studying bacteria, the preparation of stained smears, the cultivation of bacteria, disinfectants and antiseptics, sterilization by heat, relation of bacteria to disease, transmission of infectious diseases, and immunity. In the chapter on the transmission of infectious diseases great stress is laid on "carriers" and little on "fomites." To quote: "The knowledge we now possess on this subject proves that infectious diseases are transmitted by persons rather than by things, by contact with others, by certain discharges of those who are infected and by insects and vermin." The division on special bacteriology includes the various infectious diseases, bacteriology of milk, fermented milks, bacterial food poisons, bacteriology of water, animal parasites, practice of disinfection, collection of material for bacteriologic examination, and other important pathogenic micro-organisms. The work is not too technical and treats the whole subject in such a way as to be entirely suitable for the use of training schools.

CLINICAL PATHOLOGY. By P. N. Panton, M.A., M.B., B.C., Clinical Pathologist to the London Hospital. Cloth. Price, $4 net. Pp. 446, with 58 illustrations. Philadelphia: P. Blakiston's Son & Co., 1913.

The author attempts to describe in a reasonable compass such laboratory investigations as have a practical bearing on diagnosis and treatment. No list of references is given, and the names of authorities unless definitely associated with a special reaction are for the most part omitted. The text is divided into eight sections—on blood, bacteriology, puncture fluids, urine, alimentary system, eye and skin, respiratory

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tract and histology. We question whether there is need for a work of this kind. It is neither a book on clinical diagnosis nor a clinical pathology. It contains much of normal histology and laboratory technic and comparatively little of real clinical pathology. Within the limited space of four hundred pages the author has tried to write a number of compends. The most pretentious chapter is the one devoted to bacteriology. There is no evidence of tests or clinical pathology. Twenty-five pages are given over to a consideration of the bacteriologic, chemical and microscopic examination of puncture fluids; thirteen pages are devoted to histologic methods. This work savors too much of the compend, which is not what a work of this size should be.

DISEASE OF THE RECTUM AND PELVIC COLON. By Martin L. Bodkin, M.D., Rectal Surgeon, St. Mary's Hospital, New York. Cloth. Price, $5.50. Pp. 416 with 90 illustrations. New York: E. B. Treat & Co., 1913.

In his description of the anatomy of the anus, rectum and pelvic colon, Bodkin brings out many minor anatomic points that are of paramount importance clinically, the knowledge of which is absolutely essential to a proper understanding of the symptoms, clinical course and treatment of many rectal diseases. The chapters on rectal carcinoma and rectal stricture give well-tried and proved methods of treatment. In the chapter on hemorrhoids, several operative technics are minutely described. The point is made that the treatment should be adapted to the type and the location of the hemorrhoid in each case. Local anesthesia is recommended and urged in all cases that do not require a stretching of the sphincter. The ordinary pyrography cautery is recommended as efficient and is used by the author in place of the more expensive instruments. The chapters on fissure and fistula give in detail the techine necessary to diagnose and treat these common pathologic conditions. The technic of packing the rectum for hemorrhage by using the Pennington tube is well described and illustrated.

Medicolegal

Construction and Enforcement of Contract with Assistant Agreeing Not to Practice Afterward in Same Town

(Styles vs. Lyon (Conn.), 86 Atl. R. 564)

The Supreme Court of Errors of Connecticut affirms a judgment overruling a demurrer to a complaint to enforce a contract entered into between the plaintiff and the defendant, by which the defendant, a physician and surgeon, agreed for a stipulated consideration to take charge of the plaintiff's business as a physician and surgeon in a named town, and that, in case of a termination of the contract, he would not locate or open an office within the limits of the town for the practice of his profession. The contract was made in 1908, for a period of one year, continued, and, in 1912, the defendant left the employ of the plaintiff, and subsequently opened an office for the general practice of medicine in said town.

The continuance of the contract the court says may have been by renewal from year to year, or by general agreement or acquiescence of the parties. If its continuance was under a general agreement or acquiescence, all of its provisions, so far as applicable, remained in force; and such provisions as were inapplicable to the period beyond the term of the original contract ceased to be effective. The only provision of the contract falling within this ineffective class was that providing that the contract should continue "for a period of one year." Obviously this could apply only to renewals of the contract for the term of one year. The provision of restriction was a necessary part of the contract, containing, as it did, protection for the experienced practitioner against the taking away of his practice by his assistant on leaving his employ, in which the assistant had had the opportunity to gain the confidence and favor of the patients of his employer. The continuance of the contract continued the restriction.

A contract of this character, if not against public policy, is valid if it be founded on a legal consideration and be reasonable. A contract in partial restraint of trade will not, as a rule, be held to be against public policy, unless it unduly interferes with the interests of the public. There was no attempt by this restrictive provision to restrain the defendant from pursuing in an extended territory his vocation for either an indefinite or a limited time. The area of restriction was confined to a single city; the rest of the world was open to him. Under such circumstances, it could not be said that the defendant's liberty of pursuing his profession was interfered with to such an extent as to be unreasonable or to work injury to the public. Moreover, the consideration of the contract was a valid one; its adequacy was not open to inquiry in an examination of the legal validity of the contract.

The test of the reasonableness of this contract was met by answering affirmatively the question, Does it afford a fair protection to the interests of the employer in whose favor it is made? The area of restriction was limited to the place of practice. Without the aid of the restriction, the defendant having won the confidence of the plaintiff's patients might breach his contract, and take away from him the very patients whose confidence he had gained while in the plaintiff's employ. There was no other effective way by which the plaintiff could protect himself in his livelihood except by preventing the defendant from wrecking his practice.

The defendant insisted that there is a distinction between a business and a profession; that, while the period of restriction as to a business may be unlimited, the rule should not apply to a profession, since it is a purely personal relation whose benefits cease on death or the cessation from practice. The court does not think the distinction tenable. A profession partakes on its financial side of a commercial business, and its good will is often a valuable asset. It is true that the profession has its personal side, but it is not true, except under exceptional circumstances, that a professional man is indispensable to any community. The distinction sought is made in a few cases, but generally the courts do not recognize it and almost uniformly follow the rule that the mere fact that the duration of the restriction as to time is indefinite or perpetual will not of itself avoid the contract if it is limited as to place, and is reasonable and proper in all other respects.

The authorities generally are in accord on the rule of law governing this action. A contract between an employer and employee providing for the restraint of the latter, after ceasing to be in his employ, from continuing in a similar employment, will be sustained if it be not against public policy, and be not unreasonable under the circumstances of the case, and be made on good consideration. The facts of the complaint—and each case must be governed by its own facts—showed no circumstances of hardship attendant on the making of the contract and no advantage taken of the employee and no wider restriction than was reasonably necessary for the protection of the employer; therefore, the restrictive covenant could not be held to be unreasonable.

The restriction, though in specific terms not limited in time, was by the fair construction of other provisions of the contract limited to the lifetime of the defendant. Whether if the plaintiff had ceased to practice his profession, and had not transferred his practice to a successor, a court of equity would enforce the restriction in his behalf need not be determined, for the facts as admitted by the demurrer did not present that case, but one in which the defendant had remained in the plaintiff's employ for four years, and the plaintiff had resumed his practice, and was seeking to protect himself in his practice by having the restrictive provision of his contract enforced. Some of the authorities hold, and not without apparent reason, that when the professional man has ceased to practice, the enforcement of the restriction would not benefit him, and would be an unreasonable hardship on the covenantor, and therefore the restriction is, under the then circumstances, unreasonable, because it has ceased to furnish a fair protection to the covenantee. The hardship of enforcing a contract in behalf of one who has no present benefit

from the contract and no reasonable probability of any in the immediate future would incline a court of equity to hold such a construction of the contract without the fair intent of the parties to the contract and lead it to refuse its aid.

Liability for Leaving of Sponge in Abdominal Operation—When Responsibility Cannot Be Put on Nurses—Effects of Pleadings

(Palmer vs. Humiston (Ohio), 101 N. E. R. 283)

The Supreme Court of Ohio affirms a judgment for $5,000 damages rendered in favor of the plaintiff for alleged malpractice in negligently leaving a sponge in the performance of an abdominal operation. The court says that the pivot of this case was in the particular pleadings, especially the defendant's answer wherein he admitted the contract to perform the surgical operation, and admitted that "in the performance of said operation it was necessary that certain gauze or cheese-cloth sponges be used." The issues of a case are defined by and confined to the pleadings. Under the pleadings of this case the use, care and removal of such sponges were a part of the operation contracted for. In such a case the use of the sponge becomes a part of the operation as much as the use of knife or needle would become a part of this operation, and, if the use of the sponge be a part of the operation, it must follow as a corollary that the removal of the sponge at the end of its use becomes also a part of that operation.

By way of further illustration and argument, suppose that in the operation a large number of instruments was used, and, in addition to keeping tab on the number of sponges, the head nurse or some third party had kept tab on the number of instruments used and placed within the body, and had made an error in the count, whereby one of the instruments was left in the body; would it be seriously contended that this was not a part of the operation, and that the surgeon was not liable, but that the nurse alone was liable?

The defendant, therefore, having admitted the contract to perform the operation and the use of the sponges as necessary thereto, assumed the full measure of professional responsibility, which is the average care and skill of the profession at the time and in the place of the operation, which must include everything connected with the operation, the use of foreign substances, and also the removal of those foreign substances when the operation is finished.

The defendant undertook to excuse himself from that full measure of care and skill personally by claiming through his counsel that in the performance of such operation it was necessary in careful and skilled surgery to secure the assistance of certain nurses, interns and associate surgeons in and about the hospital, and that included among these was one Miss Kelly, the head nurse, to whom he intrusted the duty of counting the sponges before putting them into the body and on removing them from the body, and that he relied on the accuracy of her count, and that, if there was any error in her count, he, the surgeon, was not responsible. This was a hybrid sort of confession and avoidance, first confessing that he contracted to perform the operation, and that in connection therewith and as a part thereof it was necessary to use sponges, etc., and then, for the purpose of avoiding his full measure of professional and legal liability, contending that, if there was any negligence in failing to remove any sponge, such failure was the negligence of the nurse who did the counting, the adding and the subtracting of the sponges. But no such issue was raised by the pleadings. The defendant could not in his answer admit the employment to perform the operation and admit that in the performance of said operation it was necessary that certain gauze or cheese-cloth sponges be used, and then thereafter undertake to say that that particular part of the operation involving the use of those sponges was in somebody else's hands or head, for whose negligence, if any, he, the operating surgeon, could be held responsible. The defendant must stand on his contract of employment, and his negligence must be determined accordingly. If he was responsible for the proper use of the sponge, about which there could be no doubt under the pleadings and the inferences and deductions which must follow from them, he was likewise responsible for the proper removal of the sponge. The one must follow the other in logical sequence and legal liability.

If one is pleading a defense to a contract set forth in the petition, he may, first, deny the contract; or, secondly, he may admit it and say its terms have been fully kept on his part; but if he admits the contract, and avers that he has fully performed, he cannot thereafter claim that he secured a waiver of certain parts of it. In order that the waiver can avail him, he must plead it. Third, in order that he may stand on a supplementary contract, he must plead it. Fourth, if he is relying on a professional custom or usage obtaining among good surgeons at the time and in the place in which the operation is performed, which would avoid the liability charged, he must specially plead that particular usage or custom, and his pleadings in general must be harmonious and consistent; that is, the particular custom or usage must not conflict with or contradict the remainder of the defendant's pleading.

In this case there was no issue of agency. In order to make evidence relative thereto available, and to excuse the surgeon from any negligence on the part of the head nurse or any of his assistants, it was necessary to specially plead such usage or custom then generally in use at the time and place of the operation.

The record unmistakably presented the ghastly fact that a large gauze sponge, 14 inches square, was left in the abdomen just under the abdominal wall for more than six months after the operation. Whether this fact was due to the negligence of the surgeon, whether it caused the plaintiff any of the great pain and suffering, physical and mental, set forth in the pleadings, what the amount, if any, was her damages, were all properly questions for the jury and the courts below. With these this court has nothing to do.

No Case Made Against Roentgen-Ray Specialist—Limit to Doctrine of Res Ipsa Loquitur

(Sweeney vs. Erving (U. S.), 33 Sup. Ct. R. 416)

The Supreme Court of the United States affirms a judgment in favor of the defendant in this action to recover damages for personal injuries sustained, as was alleged, through his negligence in the making of certain Roentgen-ray tests on her body with the use of apparatus owned and operated by him. The plaintiff adduced evidence tending to prove that she was under treatment by a Dr. Kerr for the fracture of a rib, claimed by her to have been caused by the negligence of a railway company, which denied the existence of such fracture, and that Dr. Kerr arranged with the defendant, a specialist in the use of the Roentgen ray for diagnostic purposes, for a Roentgen diagnosis to be made by him, and that on her fourth visit to his office she suffered a Roentgen-ray burn. The court does not consider that there was error in a refusal to instruct the jury at the plaintiff's request that, "If you believe on the evidence that in the course of the operation of the Roentgen apparatus by the defendant the plaintiff was burned, that fact is of itself evidence of negligence on his part, and casts on him the burden of proving, if he can, by a preponderance of evidence, that the plaintiff's injury was not caused, in whole or in part, by his negligence; and in such case, unless you find by a preponderance of the evidence that said injury was not caused in whole or in part by the defendant's negligence, your verdict should be for the plaintiff." Instead, the jury was instructed that "the burden of proof is on the plaintiff to establish by a fair preponderance of the evidence that the burn on her back was caused by negligence on the part of the defendant in the manner in which he subjected her to exposure by the Roentgen ray." The plaintiff's special reliance was on what is called the doctrine of *res ipsa loquitur*, or the thing speaks for itself. But, in the court's opinion, *res ipsa loquitur* means that the facts of the occurrence warrant the inference of negligence, not that they compel such an inference; that they furnish circumstantial evidence of negligence when direct evidence of it

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may be lacking, but it is evidence to be weighed, not necessarily to be accepted as sufficient; that they call for explanation or rebuttal, not necessarily that they require it; that they make a case to be decided by the jury, not that they forestall the verdict. *Res ipsa loquitur*, when it applies, does not convert the defendant's general issue into an affirmative defense. When all the evidence is in, the question for the jury is whether the preponderance is with the plaintiff.

Again, the court says that it did not appear that there was any evidence on which the jury could properly base a finding that there was danger of injury to the plaintiff by reason of her condition or of any other matter tending to predispose her to such injury; nor to sustain a finding that such possibility was known to the defendant, or by proper study or inquiry should have been known to him. Nor could it be said, as matter of law, that the defendant had undertaken any duty requiring him to make special study or inquiry respecting the plaintiff's condition or the possibility of injury to her, or to advise her of such possibility of injury; for there was testimony that would have warranted a finding that Dr. Kerr had assumed the responsibility of advising the plaintiff respecting the propriety of her submitting to the operation.

Society Proceedings

COMING MEETINGS

American Physiological Society, Philadelphia, Dec. 27-29.
Society of American Bacteriologists, New York, Dec. 31-Jan. 2.
Southern Surgical and Gynecological Assn., Atlanta, Dec. 16-18.
Western Surgical Association, St. Louis, Dec. 19-20.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK

Meeting held Oct. 27, 1913

First Vice-President, DR. T. PASSMORE BERENS, in the Chair

Neoplasms of the Bladder; Operative Treatment

DR. FRANCIS R. HAGNER, Washington, D. C.: All tumors of the bladder are clinically malignant. Unless they are removed by some operative means they either directly or indirectly cause the death of the patient. At present all seem to be agreed that the Oudin current offers better chances of success than any of their earlier treatments. It is imperative to examine these patients cystoscopically at regular intervals, and to remove at once any evidence of recurrence. My method was first published in November, 1910.

DISCUSSION

DR. EDWARD L. KEYES, JR.: My statistics compare very favorably with those of Dr. Hagner, but one cannot deny that his method gives new hope in desperate pathologic conditions. The disparity between pathologic conditions presented and the general condition in these cases has more than once been forced on my attention. Many cases do not permit of an early diagnosis because there are no symptoms present. In many cases the high-frequency current is of no use. The tumors that can be aided by the high-frequency current are those that are clinically benign. There are several characteristics which aid one in differentiating benign and malignant tumors, two of which are of special importance. The first is the sloughing on the surface of the tumor. Such tumors can be controlled by the high-frequency current. Clinically they are malignant. In the second place there is the tumor of very virulent and intractable form, with which cystitis occurs with an infiltration of the bladder wall. It is impossible to see these tumors without the aid of the cystoscope. Because of the cystitis the use of the cystoscope is very painful. These are the cases that cannot be controlled by the use of the high-frequency current. It is obvious that tumors that can be seen or felt through the rectum cannot be controlled by the high-frequency current, and these are the cases that should be subjected to a radical, open surgical operation.

DR. LEO BUERGER: One point brought out by Dr. Hagner should be particularly emphasized, and that is the importance of an early diagnosis. In the treatment of these cases it is most important to know whether the pathologic examination shows the growth to be a carcinoma or a papilloma. The safest data in making the diagnosis of carcinoma of the bladder are those revealed by the cystoscope. When the papilloma is single, pure fulguration should not be employed, because it is slow. One should bite off as much of the base of the tumor as possible, as well as some of the surrounding tissue. If the tumor grows deeply in the muscular tissue it is carcinoma. If atypical cells are present the tumor is a carcinoma. Another important point was that there was in these cases an area of edema, and the microscope would show edema plus carcinoma. In every case one should look for this edema.

DR. ALFRED T. OSGOOD: The impression that the entire symptom-complex, or at least the cardinal symptom, must be present before tumor is suspected, seems to prevail. Tumor may exist in the bladder without symptoms or the signs of slight vesical irritability. Symptoms of cystitis are frequently due to or caused by the presence of tumor of the bladder. The cardinal symptom of hemorrhage is very frequently absent entirely and for a long period of time. Sometimes these cases are treated for months or even for years before a tumor of the bladder is discovered. It is the early diagnosis of these malignant tumors that I wish especially to emphasize. Many of these can be helped only by an early discovery of the cause of cystitis.

Indications in Renal Surgery which Demand Immediate Operative Intervention

DR. LOUIS E. SCHMIDT, Chicago: In a general way the urgent cases requiring immediate operation are those in which the conditions in or around the kidney threaten that organ with destruction, or if no relief by operative interference is given the general condition becomes so involved that the termination in most cases is fatal. Hemorrhage, no matter whether produced by injury or in the course of nephritis, tuberculosis, stone or neoplasm, gives rise occasionally to immediate intervention. The same may be said of anuria. It is, however, to the different types of acute nephritis that attention is especially directed. These are: (1) The acute parenchymatous type, which is produced by all well-known infectious diseases; (2) the acute suppurative type, which is exemplified so well by the colon bacillus infection, and (3) the acute toxic type, which is produced by many drugs and toxins. The significance of the passage of bacteria really has not been positively established, but it is my opinion that it is a distinct sign of the involvement of the kidney. Decapsulation probably relieves intrarenal tension, but it is improbable that it relieves intrapelvic tension or edema of the kidney so thoroughly as an incision through the organ into the pelvis. It is an absolute fact that urinary findings may be completely negative even in extreme cases.

It is impossible for a one-sided acute infectious nephritis to occur; if such an acute condition persists for any length of time certain agents are produced in the course of the destruction of the kidney which destroys the kidney cells. These bodies of nephrotoxic character, after gaining access to the circulation, are not only at once the source of the greatest danger in destroying the kidney cells of the involved side, but are equally important to the opposite side, producing similar destruction of the otherwise healthy kidney. If the process is not too far advanced there is at least only the destruction of a certain amount of kidney tissue. With the hope in view that the operative procedure will stop the further progress of the destruction of the kidney and of its opposite, there is also hope that by the operation the consequences to the system in general may be avoided. Under the circumstances the correct course to pursue is to undertake operative measures, particularly when all known conservative treatment has been of no avail. These procedures may vary as to the indication. In the severe hemorrhages the operative procedure should be guided by the condition, and this also holds true in cases of anuria. In groups 1 and 3, after all medical means have been

fused at least for a short time, operative interference is desirable and decapsulation is the operation of choice in these cases. If operation should be decided on in cases of acute infectious nephritis, especially in colon infection, the kidney should be exposed. If the involvement has not progressed too far, nephrotomy is the operation of choice; otherwise a nephrectomy should be performed.

DISCUSSION

DR. GEORGE E. BREWER: We are all as yet unfamiliar with the indications for operation in certain renal conditions, especially those which demand immediate operative interference. There is no question in my mind but that there is abundant proof that micro-organisms in the blood may pass through the healthy kidney without producing structural changes. But, on the other hand, they may produce changes from sloughing, swelling, infiltrations and even destruction of the organ. What changes occur depend entirely on the virulence of the organism and the resistance of the kidney tissues. There is no doubt that any kidney that has been subjected to disease, or injury, or anything that causes hyperemia, is a kidney that is vulnerable to these organisms. As they attempt to pass through they may find lodgment and form an abscess. There are two general classes of these cases to be considered, the ordinary acute form and the hyperacute form. In the first class the patient is moderately ill and presents the text-book appearance of pyelonephritis or suppuration of the kidney, with which all are familiar. There is another class of cases so virulent that the patient dies before such changes as have been enumerated can occur. In this type the process is so virulent that even renal symptoms are not present. There is usually a beginning chill with a sharp rise of temperature to 104, 105, or 106 F. Associated with this there is intense prostration and pain on the affected side; this pain is often referred to the anterior abdominal wall, which is very misleading. An examination of the urine would show no particular change because the function of the kidney has been entirely suspended. Centrifuging the urine almost invariably will disclose a few blood-cells and often a trace of albumin. In these cases prompt surgical intervention is the only resource. In the staphylococcus or pneumococcus infection the type of the infection is so rapid that unless the kidney is promptly removed the patient will die because of the pronounced toxemia from the kidney, or a toxemia resulting from metastatic abscess in other parts of the body. These are the cases that demand immediate surgical intervention. A careful urinary examination should be made in all these cases with centrifuging.

DR. JOHN F. ERDMANN: In certain instances of streptococcus infection of the kidney there is a possibility of mistaking the condition for gall-bladder trouble or infection of the liver. Clear bile will be found. On careful palpation of the kidneys a pyelonephritis may be determined. If a nephrectomy is done fewer of these patients would be lost.

DR. J. BENTLEY SQUIER: A woman entered the hospital because of frequency of urination and hematuria. She was acutely ill for a time and then the condition subsided, but came on again, the hematuria being very profuse. An exploratory operation was resorted to, but no condition was discovered which called for the removal of the kidney, so it was sutured back in place, decapsulation having been performed. The frequency of urination and tenesmus disappeared and the patient was perfectly comfortable for eighteen months, when the hematuria again appeared. The kidney was again exposed and was found embedded in a dense adherent capsule. Nephrectomy was performed. On section the condition was found to be a typical case of essential hematuria with chronic arteriosclerosis. The decapsulation operation was merely palliative and resulted well until the adhesions and fibrosis formed. In a second case coming under my notice the patient was relieved for two years by decapsulation, when there was a recurrence of the symptoms. The report of these two cases does not prove anything conclusive, but I believe that with more experience with decapsulation we will find it to be a palliative operation and not by any means a curative one. Decapsulation is applicable to anuria as well as to hematuria.

MEDICAL SOCIETY OF VIRGINIA

Annual Meeting held at Lynchburg, Oct. 21-24, 1913

(Continued from page 1930)

Intracranial Traumas at Birth

DR. JOHN F. WINN, Richmond: A fundamental necessity in the prevention of this accident is more clinical training of students, and some satisfactory disposition of the question of ignorant midwives. Hemorrhage is not necessarily dependent on bone lesions. Pressure may arise from hemorrhage or fracture, or from external pressure on the cranium without fracture. Overlapping of the parietal bones is the chief cause of hemorrhage. Respiratory embarrassment is a factor in the production of intracranial hemorrhage. Cardiac irregularities are often a sign pointing to conditions productive of hemorrhage. The "blue baby," especially, must be watched. The effusion of a considerable amount of blood may occur before signs of increased pressure appear. Thus, two or more days may elapse before the condition can be recognized.

In the prophylaxis of the condition I would emphasize: More routine practice of pelvimetry and fetometry on every primipara and every multipara with a history of dystocia or stillbirth. Accurate diagnosis of the presentation and position of the child prior to labor, and certainly when labor begins, coupled with a thorough knowledge of the mechanism of the contracted pelvis. The cultivation of that watchful expectancy which is necessary for the recognition of the indications of dystocia. A more intimate knowledge of the indications for and correct application of forceps. Forceps should never be used to pull down the unmolded head. Failure to remember that sudden or prolonged pressure by forceps results in dangerous compression of the child's brain. The unskilled use of forceps is more often the cause of compression than the rather infrequent high degrees of pelvic contraction. Routine and careful study of the fetal heart-tones will result in the diminution of this accident. The more general practice of the simple operation of symphysiotomy will likewise reduce the number of asphyxiated infants and cranial accidents.

Birth-Trauma in Epilepsy and Insanity

DR. BEVERLEY R. TUCKER, Richmond: Epilepsy attributable to birth-traumas should be classed as jacksonian. I am inclined to believe that there is a cerebral cell lesion in every case of epilepsy, and that there is no such thing as an idiopathic type. Many cases are due to birth accidents, though the figures are not reliable. The date of appearance varies from very early infancy to adult life. In going over my records, I found fifteen cases apparently definitely due to birth palsy, varying between the ages of 13 months and 25 years. Cesarean section on the mother might have prevented some cases. We should not look lightly on the use of forceps. No person can have an epileptic fit without having a brain-tissue that is susceptible. Likewise, no person can become insane without brain-cell abnormality, except those due to toxins. Are not the failures of surgery due to delayed operations? If the operation were done early, many cases of epilepsy might be prevented. The first attack is usually not given enough consideration. As a cause of insanity I have been unable to fix definitely in my mind cases certainly due to birth-trauma. Some recent cases showing definite changes in the pituitary body showed definite improvement under the use of the hypophyseal extract. I believe that many more cases could be saved by surgical means, especially with the cooperation of the general practitioner, rendered immediately after the first convulsion.

Surgical Treatment of Birth-Trauma

DR. CHARLES H. FRAZIER, Philadelphia: Hemorrhage in the new-born is almost always subdural, as in the adult. Instrumental delivery does not play so important a part as ordinarily supposed. One of the greatest difficulties in recovery is that the hemorrhage is so often bilateral. The determination of the location of the hematoma is the crux of the situation from the surgical point of view. Those above the ten-

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torium are more easily recognizable than the subtentorial because the muscular symptoms are more prominent. In the subdural type, lumbar puncture will usually show signs of hemorrhage. It is further necessary to ascertain whether, in the pretentorial cases, the hemorrhage is unilateral or bilateral. Lumbar puncture should be done in all suspicious cases and also in cases in the subdural spaces of both sides. The first indication is to relieve the pressure. A small piece of muscle applied to the bleeding point will satisfactorily control the hemorrhage in most cases. To attempt to control it with ligatures is a difficult matter. The operative mortality is over 50 per cent. and will of necessity always be high. It should not be considered prohibitory. The ultimate prognosis has not been recorded.

The mentally defective, of either high or low grade, present no surgical aspect. The care for the increasing number of feeble-minded children is the most important economic problem of health boards. Spasticity is very different. Section of the posterior roots of the cord does relieve spasticity. It is not wise to do it in children of unsound mind, or for affections of the upper extremity. For some unexplained reason, the results are not comparable with those in the lumbar region. In the latter, in selected cases, it is unquestionably of benefit. The residual power is the influencing factor. It may be very difficult to tell. Generally speaking, at least five roots should be divided, usually the three lower lumbar and the first two sacral. Identifying the nerves is difficult, and shock a danger. Disappointment may result unless arrangements are made to reeducate the muscles over a period, it may be, of months.

The cases of epilepsy with general, as against focal, symptoms, are not suitable for surgical interference. Neither are they if it has persisted for years. But in the jacksonian, and in those cases in which the motor symptoms are worse than the psychic, surgery is often helpful. It is a mistake to estimate the advantage until at least five years have elapsed. The tendency to improvement at first is well known. It is extraordinary how extensive the lesion may be without any other symptoms than epileptic seizures. The most that can be said is that in exceptional cases operative intervention may prove beneficial. Rarely are the attacks entirely interrupted; more often they are reduced in frequency.

Discussion on Birth-Trauma

DR. A. BARNES HOOE, Washington, D. C.: Attention to the patient during pregnancy will prevent most cases of instrumental delivery and, therefore, of trauma. How many men to-day in general practice ever think of using a pelvimeter, or of examining a woman to see if there is a deformity? It is the duty of every man, as soon as he is engaged, to make himself acquainted with the conditions of the pelvic cavity.

DR. J. BOLLING JONES, Petersburg: I very seldom use a pelvimeter. I use the hand. We do not hesitate to cleanse our hands and do surgery, and, if we would only look on all obstetric cases as surgical, I do not see why we cannot cleanse our hands and make examinations when necessary. A pelvimeter is necessary, but I do not hesitate to say that the best is the index-finger, and I use it with impunity, provided it is surgically clean.

DR. J. SHELTON HORSLEY, Richmond: In very young children the sinuses are usually not adherent to the bone, and the mechanical details of operation are easier than in the adult. Necessarily, though, the operation is quite dangerous. It has to be done quickly and gently. Very often little dents will come in a child's skull without a fracture. A few slight strokes at the edge, or an elevator underneath, will pop it up like a dent in a derby hat. I do not believe that such a dent should be left uncorrected. If it is necessary to open the cortex, we cannot be too gentle. There is nothing that will injure the cortex so easily as dry gauze. It should be gently irrigated, or cotton or gauze soaked in solution used.

DR. HUGH M. TAYLOR, Richmond: It is all-important to bring this subject to the general practitioner. Its whole fate is in his hands. If he is watching for these cases, he will recognize them. If the indications for decompression could be recognized and carried out successfully, we would close the doors of the epileptic and similar institutions. If we could trace back not only the epileptic, idiotic and insane, but all these abnormal children, classified as such in school, it would be found that the recognition of the condition by the general practitioner is the key to the whole situation.

DR. GREER BAUGHMAN, Richmond: I think that 50 per cent. of epilepsy would cease if all cases of pregnancy were examined by pelvimetry and externally at the end of the sixth month. The necessary knowledge of the pelvis should be acquired sufficiently long before the delivery so that you can prepare yourself. The internal measurement is not needed if we have a normal external measurement, save in the most exceptional cases, so that at the end of six months we can determine and prepare to do what is necessary.

DR. VIRGINIUS HARRISON, Richmond: We are generally taught to believe that these cases are instrumental. Mine have been chiefly rapid deliveries with a very small child or a very large pelvis. I think it is well to keep that in mind, so we shall not think that because no instruments were used, there is necessarily no brain trauma.

DR. CHARLES A. SAUNDERS, Norfolk: You can measure the passage, but I do not see how you can measure the passenger. I do not see the value of measuring the one if you cannot measure the other.

DR. JOHN F. WINN: Some comparative estimate may be made of the size of the head and pelvis by vaginal examination. Examination made in the sixth month will make unnecessary frequent examinations during labor. It is not so much the cases of high degree of contracting that embarrass us. They are plain; we know what to do. It is the cases known as border-line.

DR. BEVERLEY R. TUCKER: The number of children delivered by midwives occurs to me as a possible explanation of so many cases of epilepsy arising from birth-trauma. When an obstetrician is at a labor case he performs a service just as important as when a surgeon removes an appendix. All men who have seen epilepsy will bear out the statement that if you want to do anything for epilepsy you must do it early. Seven out of ten I have seen were told it was due to indiscretion in diet, or some senseless thing like that. From whatever point you are going to investigate it, start just as soon as the convulsion first takes place, and never lie to the family or fool yourself. If the attack is accompanied by convulsion and unconsciousness, it is epilepsy and the diagnosis is easy. The mother would make it herself if she were not persuaded by the physician.

Prevention of Malaria

DR. FRANK H. HANCOCK, Norfolk: The Virginia Society for the Study and Prevention of Malaria makes a special appeal to the laity in Norfolk. The society has provided moving pictures showing the marshes before drainage swarming with mosquitoes, and after drainage with the mosquitoes gone. Another film to be exhibited is to show the appearance of the people living in the affected districts and their improvement after the mosquito has been exterminated.

Intussusception

DR. WILLIAM GOODWIN, Charlottesville: Success in treatment will depend on early diagnosis of the condition by the general practitioner, and the patient's reaching the surgeon for an early operation. Sudden paroxysmal pain, and the vomiting of blood, with little or no fecal matter, should warrant tentative diagnosis. A mass may, or may not, be felt. It would be better to operate in a case of colitis than not to operate in intussusception. In adults the condition is more difficult of diagnosis. The surgical nature, however, can be made out, and the indications are for laparotomy. All patients should be operated on. In young children, after forty-eight hours, the prognosis is bad. The mesentery, if elongated, should be shortened to prevent recurrence, or the cecum may be attached to the lateral abdominal wall.

DISCUSSION

DR. STEPHEN H. WATTS, Charlottesville: I wish to emphasize the importance of reducing the intussusception by the method of Senn—pressure on the intussuscipiens rather than traction on the intussusceptum.

DR. J. SHELTON HORSLEY, Richmond: One patient after having a temperature of 105 F. for the first twenty-four hours, recovered; another died within a short while. Two cases were resected; one though easily reduced was resected, bearing in mind the fatality referred to previously. Children rapidly absorb toxins and become overwhelmed. It has been proved that these toxins are formed within the mucous membrane itself. The squeezing of the bowel, by the telescoping, together with the interference of the circulation, tends to form this toxic material, which has been isolated. If the intussusception is reduced, this overwhelming amount of toxic material may be carried into the circulation and overwhelm the patient, and death follow in a short while. So your troubles are not always over when reduction is accomplished. Therefore, I believe in some cases, even if reduction is possible and gangrene not apparently imminent, it is well to resect and obtain healthy bowel together with an end-to-end suture.

DR. JOHN W. DILLARD, Lynchburg: I saw a baby not quite 4 months old whose appendix was entirely swallowed up in the intussusception. The intussusception was reduced, and the appendix found diseased and blue. The appendix was by actual measurement found to be 4 inches long. The patient made a good recovery.

CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA

Fourth Annual Session, held in Chicago, Nov. 10-15, 1913

(Continued from page 2011)

Roentgenotherapy of Benign and Malignant Tumors

DR. KRONIG, Freiburg, Germany: I have treated 350 cases of myomas of the uterus with Roentgen rays. The chief aim is (1) to diminish the size of the tumor and (2) to lessen the severity of the hemorrhage, but without absolute amenorrhea. I have many times attained this end, especially in younger persons, but I must confess that I have seldom gained the desired object. Shrinkage of the tumor begins only when amenorrhea is gradually established, and relapses are frequent if menstruation has not completely ceased. Roentgenotherapy for myomas of the uterus is far superior to operative treatment by means of total extirpation or by supravaginal amputation of the myomatous uterus.

I have treated 254 cases of cancer with Roentgen rays and radium. The material includes those cases treated for the prevention of the secondary growth after operation for carcinoma, as well as those cases in which roentgenotherapy for carcinoma has been used therapeutically. Of this number 150 cases were treated on purely therapeutic lines and without operation. Of these, 140 were treated with the Roentgen ray and mesothorium combined. Of 64 cases of carcinoma, 43 were treated for the prevention of secondary growth almost exclusively with unfiltered Roentgen rays, while 21 cases were treated partly with filtered and partly with unfiltered rays. The difference is striking. While 32 out of 43 patients died of carcinoma, the subsequent history of 20 patients showed that 60 per cent. of the recurrences occurred the first year after operation.

Thus far we have not succeeded in curing a single case of metastatic carcinoma. It is quite possible to produce remarkable retrogressions and checking of the carcinomatous metastases by means of intense radiation of Roentgen rays and radium, but in all cases the carcinoma later spread further. We have not saved a single patient.

DISCUSSION

DR. HOWARD A. KELLY, Baltimore: I have used radium in 366 cases, of which 188 were malignant growths, including tumors of all parts of the body—mouth, throat, nose, neck, lower part of the abdomen, the uterus, etc. I have treated forty cases of cancer of the lower part of the uterus, where the disease is apt to spread rapidly. The cases were considered hopelessly advanced and inoperable, and in three of them, after extensive operation, radium was used. In these three instances there has been no recurrence and health has been fully restored. I have also had four cases in which no operation could be done on account of the general condition of the patients. Two of these patients had diabetes, one Bright's disease, and the other a serious ailment which contra-indicated operation. In these cases apparently a cure has been effected. I have had two patients with cancer of the larynx, one of whom has been well for months, and the other appears to have recovered, but is still under observation.

Diagnosis of Lesions of the Upper Urinary Tract

DR. HUGH CABOT, Boston: We have now at our disposal methods of diagnosis of lesions of the upper urinary tract and abdomen which are of extreme accuracy. They are not being used with sufficient frequency, and therefore a large percentage of errors in diagnosis are being made. These methods require skill and judgment in their application, and without that skill and judgment they are dangerous.

DISCUSSION

DR. ARTHUR D. BEVAN, Chicago: We need in each clinic a complete organization, a surgeon, a cystoscopist, a roentgenologist, a competent laboratory worker and an internist. In making a diagnosis of lesions of the upper urinary tract, and in practically all abdominal work, the evidence which we desire to obtain can easily be grouped under four heads according to their value: (1) the history, which in a given case of lesions of the upper urinary tract is more valuable than anything else; (2) proper physical examination, including an examination for tumors, dilatation of the colon with air, cystoscopic examination, catheterization of the ureters, and roentgenograms of the region with or without collargol; (3) the laboratory findings, and (4) in a limited number of cases, exploratory operation.

Report of Cancer Campaign Committee

DR. THOMAS S. CULLEN, Baltimore: Few surgeons have sufficient radium to give it a thorough trial. Extensive doses sometimes cure when smaller amounts have but little effect. Only time will tell what percentage of cases can be cured with radium. At present early surgical procedure affords the best chance for cure. The results obtained from radium must be taken into consideration. At the same time the men who have reported the best results are still urging early operation whenever possible. In the past, attempts to instruct the physicians alone have not produced any decisive results. Hence we must go to the people through the newspapers and magazines. Many popular articles have already appeared. The press has responded nobly to our appeal. As a result the patients are coming earlier. Still there is need of further dissemination of knowledge by means of lectures on hygiene in women's clubs, factories and elsewhere. Further, better records must be kept, hospital statistics must be analyzed carefully so that accurate deductions can be drawn from them, and we must have surgical pathologists to aid in diagnosis. Thorough operations must be insisted on as soon as the diagnosis of cancer is made. Patients who have been operated on must be followed up and the results recorded.

In the years past few cases of cancer of the uterus were cured. Now from 20 to 25 per cent. of patients suffering from cancer of the neck of the uterus who are operated on are permanently relieved. Some of these patients are well thirteen or more years after operation. The results following operations for cancer of the body of the uterus are much more comforting, at least two-thirds being permanently cured. These results are a wonderful improvement on those of twenty or thirty years ago, when nearly all died. When women realize what splendid permanent results may be obtained by early operation, and fully appreciate the neces-

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sity of finding out just what is the matter with them, instead of procrastinating until the disease is far advanced, the percentage of permanent cures will be greatly increased.

Publicity and Ethics

MR. SAMUEL HOPKINS ADAMS, New York: The universal agency of popular education is the daily press. Between that great agency of enlightenment and the medical profession there has been raised a barrier fraught with difficulty, the barrier of the unwritten law of the profession, which says to the doctor, "thou shalt not appear in print."

The daily paper, with all its sins, is the one agency by which the medical profession can attain immediate, positive and direct universal education—a saturated solution of enlightenment. Nothing else will do it. There is no sacred reticence required of a doctor other than the reticence that guards the privacy of his patient. The time has come when the old, obsolete ban of silence should be lifted and the propaganda should go on through the agency best fitted to spread it—the daily newspapers.

Publicity and Education Through the American Society for the Control of Cancer

DR. EDWARD REYNOLDS, Boston: The American Society for the Control of Cancer is composed of prominent members of the profession and of influential members of the laity. It is actively at work in perfecting a wide-spread organization of national scope for the active prosecution of this campaign. It has already been guaranteed, and, indeed, for the most part, has already in cash the large amount of money which is necessary even for initial expense of the organization. It has already under salary a general executive secretary, whose past career is a guarantee of his possession of the necessary power of organization. It plans to work in cooperation with all the existing organizations in the study of cancer and in the promotion of the necessary publicity of all the points on which we already have assured knowledge. It has already been assured of hearty cooperation from the more important of these preexisting bodies, and has received the endorsement of all, or nearly all, of the great national medical associations. It asks the sympathy and effective aid of every member of the profession and of every interested layman and laywoman.

Education and Publicity Through the Council on Health and Public Instruction of the American Medical Association

DR. FREDERICK R. GREEN, Chicago: What can the Council on Health and Public Instruction of the American Medical Association do to enlighten the public on the prevention and control of disease? The answer is obvious. We can place at the disposal of the American Society for the Control of Cancer and the Committee of the Clinical Congress of Surgeons of North America all of the resources of the council. Through the *Press Bulletin* suitable material on this subject can be placed in the hands of five thousand editors, without any cost to the society or to the committee. Through the speakers' bureau addresses can be given to the public on cancer and its menace. Through the bureau of literature, local pamphlets and leaflets on this subject can be distributed.

The work which needs to be done seems also to be threefold and to be peculiarly adapted to the three organizations mentioned. The first thing is to interest the public, especially the wealthy and influential public, in the problem of the control of cancer. This is a movement for the public welfare, and there is no reason why the public should not assume part of the expense. This is the work for which the recently organized society for the control of cancer is admirably adapted.

The second necessity is the careful investigation of the entire problem of cancer, its age, its race and sex incidence, its relative frequency in different occupations and locations and all of the clinical facts connected with its appearance. This is clearly a clinical and surgical problem.

The third requirement is the distribution to the public of the results of such an investigation. This is obviously a task for the Council on Health and Public Instruction of the American Medical Association, representing as it does the organized profession of the entire country. Through its machinery it can, without any additional expense, place before the public any information which may be desired on this question.

Educational Value of Cancer Statistics to Insurance Companies, the Public and the Medical Profession

MR. FREDERICK L. HOFFMAN, Newark, N. J.: For the year 1910 the average age at death from cancer and other malignant tumors combined was 59.2 years for the registration area of the United States. For males the average age at death was 60.4 years, and for females, 58.4 years. Considered by organs or parts affected, the average age at death in cancer of the buccal cavity was 63.1 years; in cancer of the stomach and liver, 61.2 years; in cancer of the peritoneum, intestines and rectum, 59.2 years; in cancer of the female generative organs, 53.8 years; in cancer of the breast, 58.3 years; in cancer of the skin, 68 years, and in cancer of other organs and parts not specified, 56.9 years.

Of the mortality from all causes in the registration area, ages 45 and over, the proportion of deaths from cancer is 8.6 per cent., or, respectively, 6.4 per cent. for males and 11.2 for females. During the decade ending with 1911 the cancer death-rate for all ages has increased from 65.8 per hundred thousand of population in 1901 to 83.9 in 1911. The cancer death-rate of males has increased from 48.7 to 64.2 per hundred thousand of population, or 31.8 per cent., and the cancer death-rate of females has increased from 83 to 104, or 25.3 per cent. Considered by divisional periods of life, the death-rates have increased at all ages and for both sexes, with unimportant exceptions, from ages 5 to 14, inclusive. For males the increase in cancer during the ten-year period, from ages 45 to 54, was 21 per cent.; from ages 55 to 64 it was 39 per cent.; from ages 65 to 74 it was 40 per cent., and at ages 75 and over it was also 40 per cent. For females the increase in the cancer death-rate from ages 45 to 54 was 11 per cent.; from ages 55 to 64 it was 27 per cent.; from ages 65 to 74 it was 32 per cent., and at ages 75 and over it was 44 per cent.

There is sufficient evidence to sustain the conclusion that in quite a number of cases of suicide the underlying motive was the insufferable torture of a hopeless case of cancer. The recorded cancer death-rate is perceptibly diminished on this account. The mortality from cancer has gradually and persistently increased from a comparatively low rate of frequency to proportions which may appropriately be considered a menace to civilization.

Dr. Ernst Schwarzkopf, of the Surgical Clinic of Prague, found that out of 350 cases of cancer of the breast, 321 were operable and only 39 were not operable. Practically all of the early cases which came to him, say of less than six months' duration, were within the operative group. I have made a special analysis of the experience of the General Memorial Hospital of New York with the following results:

This hospital, during the period 1902-1911, treated 1,337 patients on account of malignant disease. Of this number, 531 were males and 806 were females. Of the total number treated, 460, or 34.4 per cent., were cured; the number of improved was 391, or 29.2 per cent.; the number of not improved cases was 266, or 19.9 per cent.; and 115 patients, or 8.6 per cent., were either not treated or remained in the hospital at the end of the period. There were 105 deaths, equivalent to a fatality-rate of 7.9 per cent.

There are the strongest possible reasons for believing, however, that if the cancer facts, including medical and surgical experience, were brought together in an authoritative form, they would materially aid not only the work of the American Society for the Control of Cancer, but also the various cancer research funds, as well as the individual practitioner in his relations to the patients and the public at large. With this end in view, however, it is necessary that there should be intelligent and active cooperation between the laity and the profession, on the one hand, and the life-insurance companies and the federal and state governments, on the other.

Outcome of Cases of Cancer Recorded in the Johns Hopkins Hospital

DR. JOSEPH C. BLOODGOOD, Baltimore: In eighty-five cases of benign lesions of the lip there were 100 per cent. cures. In lesions of the lip which to the sight and touch seemed benign, but which under the microscope proved to be early cancer, there were nine cures, or 90 per cent. The failure to cure in the one case was due to an incomplete operation on the lower lip. When the lower lip only was removed and not the glands, we have cured but seven patients, or 63 per cent. The failure to cure in four cases was due to the involvement of the glands under the jaw. When the complete operation was performed, there have been twenty five-year cures, or 95 per cent. If the lesion of the lip has had previous treatment and has recurred on the lip, the probability of a cure is reduced from 63 to 20 per cent., from 95 to 60 per cent., and from 50 to 20 per cent. The operation for recurrent cancer of the lip reduces the probability of a cure at least 42 per cent. Similar figures can be duplicated with lesions of the tongue, face, skin of the body and extremities.

In the least malignant forms of cancer of the breast, thirty-five patients were cured five years or more after operation. Fifteen patients came for treatment so early in the disease that a diagnosis of cancer could not be made out until at the operation when the lump was explored. Every one of these patients has remained well five years or more; that is, 100 per cent. of cures have been accomplished when the operation has been in the early stage in the less malignant forms of cancer of the breast. In this form of cancer twenty patients came for treatment late. The same complete operation was performed, but the percentage of cures was but 64 per cent. Results, therefore, in the less malignant form of cancer of the breast were: thirty-five cases, 76 per cent. of cures; fifteen early cases, 100 per cent. of cures; of twenty late cases, 64 per cent. of cures. The percentage of cures for all cases of cancer in which complete operation could be done, and in which the period of time since operation is five years, is now 42 per cent. Five years ago it was only 35 per cent.

In cancer control and precancerous lesions the great hope for increasing the number of cures of cancer and decreasing the number of deaths from cancer lies in the education of the public and the profession as to the significance and potential danger of the precancerous lesion; the education of the surgeon as to the best surgery, and the education of the surgeon and the pathologist as to the recognition of the earliest stage of the beginning of cancer in the benign precancerous lesion. Incomplete treatment in the earlier stage of cancer often yields a worse result than complete treatment in a later stage.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Nov. 5, 1913

The President, DR. JAMES C. WILSON, in the Chair

Results of the Treatment of Poliomyelitis by Operative Measures

DR. G. G. DAVIS: As we become better informed as to what can be achieved by operative procedures in these cases they will be earlier resorted to than at present. A boy of 13 had been paralyzed at the age of 1. The parts involved were the lower part of the trunk and left lower extremity, the back, the region of the hip and almost all of the muscles of the thigh, with the exception of the biceps and one or two of the muscles moving the foot. As he grew older a knock-knee developed. He wore braces for seven years. The first operation was an osteotomy of the femur, done in December, 1910. In the following March an arthrodesis was done to fix the flail-foot. The biceps femoris tendon was loosened from its attachment on the fibula and inserted into the top of the patella; and while the foot was strongly inverted the fascia lata was slit in a longitudinal direction and sewed fast with silk sutures behind the greater trochanter. The boy wore a brace until the various operative procedures had well healed. His walking has improved ever since. The fixation of the ankle eliminated movement at that joint and also to a considerable extent at the joint between the astragalus and os calcis. The mediotarsal joint, in front of the ankle, not being interfered with, allowed the anterior part of the foot to drop somewhat, but not enough to allow the toes to catch in walking. The lateral movement of the foot was also eliminated to a sufficient extent to remedy the tendency to valgus. The transplanted biceps muscle can be seen to contract perfectly, and holds the knee back in walking so that it does not tend to collapse when weight is put on it. The holding of the thigh in a position of internal rotation by fastening the fascia lata to the posterior edge of the greater trochanter corrected the outward turning of the foot in walking.

DISCUSSION

DR. J. TORRANCE RUGH: In Italy I saw Putti do an operation which to my mind takes the place of arthrodesis for the ankle-joint, especially in cases of this type. He separates the anterior tendons from the muscles high up on the leg. Then a hole is drilled through the tibia and the tendon ends are drawn through this hole and fastened subperitoneally in front of the tibia, some of the tendons being passed through from one side and others from the other side. He thus shortens the tendons and leaves purely tendinous structure between attachment and insertion, and the tendon acts as a ligament and will not stretch. It is the badly degenerated muscle-tissue which stretches. If there is sufficient contractive power on the part of the posterior tendons, the anterior ones can be shortened and the foot maintained in the proper position, or if there are live muscles anteriorly, the posterior tendons are shortened in the same manner and the necessity of an arthrodesis is avoided. Operative measures, of course, should not be undertaken until it is certain that complete, or all possible, regeneration has taken place, and that there is no possibility of return of power in the muscles. Not until about six years after the onset of the paralysis should operative measures be instituted.

Diet in Psoriasis

DR. JAY F. SCHAMBERG: A careful study was made of the protein metabolism of eight psoriasis patients. On a given protein diet a psoriatic subject eliminates less nitrogen in the urine than does a normal person on a corresponding diet. Patients suffering from psoriasis exhibit a remarkable retention of nitrogen. This retention appears to be proportional in a general way, to the extent and severity of the eruption. The nitrogen is retained to a greater degree than in any other condition, and on a diet low in nitrogen and insufficient in caloric value, one on which a normal person would fail to maintain equilibrium. Experiments with urea feedings show conclusively that the nitrogen retention cannot be attributed to any disturbance in the eliminative capacity of the kidneys. Patients with extensive psoriasis may lose very large amounts of nitrogen in the exfoliated scales, which consist of almost pure protein.

The retention of nitrogen in most cases is greater than can be accounted for by the protein lost in the scales, and it may persist even after scaling has ceased and the eruption has virtually disappeared. A low nitrogen diet has a most favorable influence on the eruption of psoriasis, particularly when the latter is extensive. A high-nitrogen diet exhibits an unfavorable influence on psoriasis, commonly causing an extension of the eruption. The great proliferation and exfoliation of cells by the skin in psoriasis demand a large supply of protein, which can be procured only from the lymph- and blood-streams. This protein supply may be derived from the ingested food, and a possibility exists that the great demand of the diseased skin for protein may also be satisfied by the protein reserve in muscle tissue, which thus may become depleted and later require restoration. A protracted low-protein diet may diminish the proliferative activity of the skin by diminishing the supply of protein, the principal building material. On the other hand, a high-protein diet may stimulate the proliferative activity of the cells by furnishing an abundant supply of the necessary protein.

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Current Medical Literature

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Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

November, LXVIII, No. 431, pp. 817-1016

1 *Treatment of Puerpera: Streptococcemia with Intravenous Injections of Magnesium Sulphate. J. A. Harrar, New York.
2 *Lactation Atrophy of Uterus. D. H. Stewart, New York.
3 *Rupture of Symphysis Pubis in Labor. H. E. Tuley, Louisville, Ky.
4 Intermittent and Unilateral Chyluria; Myomectomy at Eighth Week, Pregnancy not Interrupted; Gastrectasis Following Ventral Fixation of Uterus with Long Labor. A. B. Davis, New York.
5 *Conservatism in Operations for Acute Inflammatory Pelvic Disease. B. Van Sweringen, Ft. Wayne, Ind.
6 *Local Anesthesia in Operations for Hernia. J. H. Jacobson, Toledo.
7 *Diagnostic Hysterotomy. G. K. Dickinson, Jersey City, N. J.
8 Laceration of Cervix, Causative Factor in Salpingitis. F. Reder, St. Louis.
9 Report of Cases. A. T. Jones, Providence, R. I.
10 *Use of Iodin in Abdominal Surgery. L. Frank, Louisville, Ky.
11 *Cancer of Uterus and Fibroid Tumors from Clinical Standpoint. E. J. Ill, Newark, N. J.
12 Uterine Fibromyomas of Lower Uterine Segment. J. N. West, New York.
13 *Observations Based on Seventy Cases of Bowel Obstruction. W. C. G. Kirchner, St. Louis.
14 Fibroma of Intestine, Eventuating in Intussusception and Obstruction. H. O. Pantzer, Indianapolis, Ind.
15 Stenosis of Pylorus in Infancy with Report of Cases. J. W. Keefe, Providence, R. I.
16 Fibroma Cardia in Girl of 18; Gastrostomy and Enucleation. J. F. Erdmann, New York.
17 Gall-Stone Surgery with Report of Cases. J. H. Branham, Baltimore.
18 Sudden Severe Hemorrhage into Ovarian Cyst Following Delivery. W. E. Darnall, Atlantic City.
19 *Seven-Pound Ovarian Tumor that Developed in Nine Days. J. H. Carstens, Detroit.
20 Appendicitis in Young Women. H. S. Lott, Winston, N. C.
21 Plastic Method of Closing Ventral Hernia. L. F. Smead, Toledo.
22 *Cholangitis and Pancreatic Lymphangitis. L. W. Swope, Pittsburgh.

1, 2, 3, 5 and 6. Abstracted in THE JOURNAL, October 4, pp. 1320 and 1322.

7. **Diagnostic Hysterotomy.**—When hysterotomy is justifiable, Dickinson says, still remains a question. He has grave doubts whether any one can answer this in pathologic terms. Personal pride in making a diagnosis without too much surgery should lead to a proper effort to obtain same through complete history, curettage, and perhaps the added opportunity of a manual examination of the uterus, but if by these means, particularly in chronic cases, one cannot be positive as to the contents of the uterus or of the condition of its substance, then in Dickinson's opinion hysterotomy is not only justiable but necessary.

10. **Iodin in Abdominal Surgery.**—From his work experimentally and from clinical observations with iodin in the preparation of the field for abdominal operations, Frank concludes that though tincture of iodin is effective as a means of sterilizing the skin, it has its disadvantages. Should the intestines come in contact with the iodin, adhesions will undoubtedly take place in the area exposed, due to the action of the iodin as an irritant to the peritoneum; when tincture of iodin is used as a means of preparing the field, the utmost care should be taken to avoid such contact by protecting the field beyond the abdominal incision by means of moist pads securely fixed in place, and under no circumstances should iodin or its tincture be poured into the peritoneal cavity. In the normal peritoneal cavity iodin in alcoholic or aqueous solution is in sufficient quantity distinctly toxic.

11 and 13. Abstracted in THE JOURNAL, October 4, p. 1323.

19. **Ovarian Tumor.**—One morning, Carstens' patient, aged 30, ii-para, noticed that her abdomen was unusually large; she took a cathartic without relief, her abdomen increasing in size day by day. Carstens saw her just nine days after the onset of the trouble. On physical examination he found an intra-abdominal enlargement extending from the symphysis pubis to near the umbilicus. When lying on her back it was rounded, dull on percussion and fluctuating; nothing could be felt through the vagina, except that the uterus was apparently normal. Her temperature was 100.5 F. Carstens decided this woman had developed a simple ovarian tumor which had produced no symptoms, and had filled the pelvic cavity until it had grown so large that one night it popped up above the rim of the pelvis, and the next morning the patient discovered enlargement. While the tumor was being forced out of the pelvic cavity, the pedicle became partly twisted, sufficiently so as to interfere with the return circulation; as a result some of the veins had ruptured, and there was a gradual filling up of the sac with blood, and an increased flow of serum which, evidently, occurred also during this time. By moving around, attending to her usual work, the pedicle in a few days became still more twisted and finally the circulation was entirely cut off. The tumor then became gangrenous, and the sepsis began to develop just when Carstens first saw her. The operation was a simple one, there were a few slight adhesions, but special care was taken when the sac was emptied not to contaminate the peritoneal cavity. The sac contained a dark, grumous fluid, having the odor of decomposition. The sac itself was green in spots, showing the evidence of gangrene. The infection was from the colon bacillus. She made a quick and smooth recovery.

22. Abstracted in THE JOURNAL, October 4, p. 1323.

American Journal of Public Health, New York

October, III, No. 10, pp. 977-1122

23 Limitations of Federal Food Law. C. L. Alsberg, Washington, D. C.
24 Function of State Authorities in Control and Improvement of Food-Supplies. H. E. Barnard, Indianapolis, Ind.
25 Function of Municipal Authorities in Control and Improvement of Food-Supplies. E. J. Lederle, New York.
26 Function of Voluntary Organizations or Agencies in Control and Improvement of Food-Supply. B. B. Burritt, New York.

Annals of Surgery, Philadelphia

November, LVIII, No. 5, pp. 577-720

27 *Traumatic Erb's Paralysis in Adult. A. S. Taylor and L. Casamajor, New York.
28 *Splenic Anemia, with Special Reference to Etiology and Surgical Treatment. J. S. Rodman and D. P. Willard, Philadelphia.
29 Exactness in Diagnosis and Conservatism in Treatment of Renal Calculus. P. M. Pilcher, Brooklyn.
30 Transperitoneal Resection of Diverticulum of Bladder. E. Beer, New York.
31 Report of 105 Cases of Strangulated Hernia. E. G. Alexander, Philadelphia.
32 *Immediate and Late Results of Whitehead Operation for Hemorrhoids. H. B. Stone, Baltimore.
33 *Method for Mechanical Fixation of Transverse Fractures. H. S. Souttar, London.
34 Reduction of Fragments in Fractures of Long Bones at Open Operation. J. C. A. Gerster, New York.
35 Development of Author's Gastro-Enterostomy Clamp. W. Bartlett, St. Louis.
36 Chevalier Jackson Method of Finger Elevation of Hyoid Bone in General Anesthesia. E. J. Patterson, Pittsburgh.

27. **Traumatic Erb's Paralysis.**—The only rational treatment of this condition, the authors point out, consists in prompt exploration with such repair of nerve structures as may be indicated in the individual case. If no macroscopic injury is found, practically nothing but a skin wound has been made. After the few days required for healing, the after-treatment may be started vigorously, and with exact knowledge of the condition to be dealt with. If gross injury is found it can be repaired at once and so cause the least loss of time to the patient, and give the most favorable opportunity to the nerves for complete repair. Operation consists in the resection of the damaged areas of nerve, followed by end-to-end suture of the roots and trunks. In bad cases in which the resection has been so extensive that approximation by suture is impossible, resection of the middle of the clavicle will greatly facilitate the approximation. An extremity that will move, even with the clavicle absent or distorted, is very much to be preferred to one that is paralyzed, but with the clavicle intact. After-treatment consists in the wearing of some fixation apparatus for from six to twelve weeks, which shall keep the neck and shoulder of the damaged side in close approximation to favor firm anatomic and physiologic union of the nerves. With the removal of the fixation apparatus the various forms

of physical therapeutics should be systematically employed. Results are late in appearing and will seldom be perfect.

28. **Splenic Anemia.**—Splenic anemia in the author's opinion is a disease entity characterized by a definite symptomatology and pathologic picture, and the so-called "Banti's disease" is its terminal stage. In all probability the primary cause of splenic anemia is a toxemia, the origin of which is to be sought for outside the spleen itself, possibly in the gastro-intestinal tract, but the exact nature of which is as yet unknown. This toxin probably acts primarily or secondarily on splenic cells, causing an hypertrophy and increased activity. This increased splenic activity is responsible for the anemia probably through a decreased resistance of the red blood-corpuscles. The icteric pigmentation is also due to an increased hemolysis. Although the thrombophlebitis of the splenic and portal veins is a frequent finding clinically, they believe, from their own experimental work and that of others, that it is not an essential factor in the etiology. If the theory of a primary toxin is correct, they suggest that the blood coming from the spleen to the liver should be doubly toxic, in that it contains not only the primary toxin, but that also elaborated by the splenic substance.

The authors believe that it is the action of this doubly toxic blood that causes the endophlebitis of the splenic and portal veins with its consequent thrombosis. In all probability these same toxic factors play the important rôle in the production of liver cirrhosis, although the mechanical factor of congestion of the portal system may be an additional cause. Up to the present time treatment other than surgical has yielded only temporary benefit. Splenectomy in the first and second stages offers the only chance of permanent cure. The mortality is 12.5 per cent. Splenectomy in the third stage will arrest the further development of the disease, but will not cause a retrogression of the liver cirrhosis. In a few isolated cases of early cirrhosis permanent cure has followed removal of the spleen. In the past five years mortality following splenectomy when done in the third stage has been 56.25 per cent. The combination of splenectomy and Talma's operation should be the procedure of choice in this stage.

32. **Whitehead Operation for Hemorrhoids.**—Of 185 cases cited by Stone, 31 have been operated on less than five years, 59 from five to ten years, 58 from ten to fifteen years and 37 from fifteen to twenty-two years. The results were perfect in every respect in 134 cases, a percentage of 72.4. The most frequent complaint was disturbance of the sphincter action. This complaint was variously phrased; "weakness of control of the bowel" or "imperfect control" were common expressions, and in many cases the statement was made by the patient that he experienced inconvenience in this respect only when from medication or indiscretion in die there resulted an attack of diarrhea. There were thirty-seven cases in which the muscular control was more or less impaired, but in only one of these was there actual paralysis of the sphincter. This patient developed hemiplegia five years after his operation, hence, Stone doubts that the Whitehead operation was alone responsible for the paralysis of the sphincter. Of these thirty-seven patients there were eight who complained of itching or moisture following the operation, but in most of them this was a temporary condition. A number of patients had been bothered for five or six months by sensory disturbances. In sixteen the itching and moisture is still complained of by the patient. In many instances the annoyance was said to be "slight." In five cases there is a certain degree of stricture; two of these were examined by Stone. One of them did not know that he had a stricture; in him there was found a narrow wire-like ring of fibrous tissue of wide caliber, which easily admitted the index finger and caused no symptoms.

In fourteen cases a recurrence in some measure had taken place. One of these patients had had a perfect result for nineteen years and then developed a thrombotic external pile. Another had two small skin tags remaining from the operation. A third has a small external pile. Another says that there is still "some bleeding." Four others have what they describe as a "little return" of the piles. One patient, in response to letters, returned to the hospital, was readmitted and operated on for an isolated hemorrhoidal polyp, which had developed since his original operation. In five cases there was more or less extensive recurrence of the hemorrhoids, and of these, three were operated on the second time. On one of the three a third operation was made, each of the operations being performed by a different surgeon and by a different method. This patient states that he still suffers from hemorrhoids.

33. **Fixation of Transverse Fractures.**—The plate used by Souttar is of thin sheet, and instead of lying on the surface of the bone is for the most part buried in its substance. For this purpose a slot is cut longitudinally in the two fragments of the bone with a small circular saw. The plate is 1 cm. or more wide and from 5 to 10 cm. in length. The whole of this portion is intended to be buried in the bone. A narrow flange projects from one edge and is to lie on the surface of the bone. This flange may be provided with holes for screws. In other cases it may be preferred to fix it with wires encircling the bone. In most cases screws will be preferred and a special form of screw is provided. They are of steel with a fine thread, as they are intended to engage only in the compact bone. The point is slightly tapered and this portion of the screw is flattened on one side. A sharp edge is thus left, by means of which the thread actually cuts its way into the dense bone. The screw may thus be driven into the bone with great freedom, and scarcely any resistance is encountered till it is actually home. A solid hold is thus obtained which is impossible with other types. The chief advantage of this method is the great solidity of the fixation.

Boston Medical and Surgical Journal

November 20, CLXIX, No. 21, pp. 741-776

37 *Summer Diarrheas in Children, 1911. A. I. Kendall and A. A. Day, Chicago, and E. P. Bagg, Boston.
38 Saprophytism, Parasitism and Pathogenism. A. I. Kendall, Chicago.
39 *Summer Diarrheas in Children, 1912. A. I. Kendall and A. A. Day, Chicago.
40 Etiology of Severe Summer Diarrheas of Bacterial Causation. A. I. Kendall, Chicago.
41 Two Types of Infectious Diarrhea in Infants. R. M. Smith, Boston.
42 Preparation of Common Infant Foods. R. B. Hunt, Boston.
43 The Wetnurse Problem. F. B. Talbot, Boston.
44 Relation of Hospital to Hygiene of Pregnancy. J. L. Huntington, Boston.

37. **Summer Diarrheas in Children.**—The striking fact brought out by the authors is that in every case of infantile diarrhea studied (with the exception of the few fermentative diarrheas) there was a general conformity in bacterial type of the intestinal flora, which was uniformly proteolytic in character. This proteolytic flora forms a striking contrast to that of normal children of similar age, in which the putrefactive activities are minimal. Superimposed on this proteolytic background various of the well-known intestinal pathogens may stand out conspicuously. In the past the isolation of such organisms has sufficed to establish the diagnosis; it now appears that such is not necessarily the case, inasmuch as one or more of them may be present without the production of noteworthy symptoms. On the other hand, cases are met with in which these organisms cannot be found, yet show blood, pus and mucus in the stools and severe toxemia. In these latter cases the flora has been found to be proteolytic in character.

39. **Idem.**—Gas bacilli were found by Kendall and Day in fifty-three of a total of 135 cases of diarrhea during the summer of 1912. This is a much higher incidence than that observed in previous years, although the technic employed for the recognition of this organism was that which has been used throughout these investigations. In 1910, for example, gas bacilli were found in but twenty-two of a total of 293 cases examined. In 1911 thirty-three out of a total of 283 were positive. These statistics emphasize the epidemic tendency which the gas bacillus exhibited in 1912. Even early in the season this unusual frequency of gas-bacillus cases attracted attention, and a study was made of diarrheas of moderate severity due apparently to fat indigestion.

In all, 103 cases of these fat diarrheas were studied with this object in view. Of these, six showed definitely large numbers of gas bacilli. Gas bacilli were found in small numbers in

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six other cases, apparently, however, without significance. Dysentery bacilli were found in five patients; four of these were of the Flexner type, one of the Shiga type. An organism apparently identical with the Morgan bacillus has been found in thirteen of these. A yeast odor was noticed in a considerable number of cases. The stools when passed were more or less frothy and contained considerable amounts of mucus. A peculiar bacillus, which is tentatively grouped with the pneumobacillus was found repeatedly in thirty-one of these, usually in considerable numbers. Paratyphoid bacilli of the Beta type were found in four cases, bacillus pyocyaneus in two, streptococci in six. Yeasts were isolated from the stools of seven patients. The stools from which these yeasts were obtained did not possess a yeasty odor.

California State Journal of Medicine, San Francisco

November, XI, No. 11, pp. 431-474

45 Value of Pyelography for Diagnosis of Hydronephrosis. M. Krotoszyner, San Francisco.
46 Exophthalmic Goiter: Indications and Contra-Indications to Operations. E. H. Schneider, Los Angeles.
47 Clinical Methods of Estimating Degree of Acidosis in Diabetes. T. Addis, San Francisco.
48 *Early Symptoms of Poliomyelitis with Special Reference to New Preparalytic Symptom. J. A. Colliver, Los Angeles.
49 Effects of Civilization on Eyes. A. S. Green, San Francisco.
50 Partial Bilateral Nephrectomy in Case of Calculous Pyonephrosis. W. E. Stevens, San Francisco.
51 Roentgenoscopy of Gastro-Intestinal Tract. A. Solland, Los Angeles.
52 Affections of Eyes Resulting from Sinus Involvements. R. W Miller, Los Angeles.
53 Ringworm in California. H. Morrow, San Francisco.
54 Case of Ophthalmic Migraine. E. W. Alexander, San Francisco.
55 Four Cases of Removal of Prefrontal Tumor of Brain. L. Newmark, San Francisco.
56 Differential Diagnosis of Palmar Syphilis, Eczema and Psoriasis. D. W. Montgomery and G. D. Culver, San Francisco.
57 Parasitic Skin Disease in California. E. D. Chipman, San Francisco.
58 Thrombosis of Lateral Sinus with Report of Five Cases. C. F. Welty, San Francisco.
59 Three Cases of Pellagra in San Francisco. J. B. Frankenheimer, San Francisco.
60 Ductless Gland Extracts in Relation to Ear Affections. H. Y. McNaught, San Francisco.

48. **Symptoms of Poliomyelitis.**—The symptom referred to by Colliver is a peculiar twitching tremulous or convulsive movement of certain groups of muscles lasting from a very few seconds to less than a minute. The amplitude of vibration is greater than a tremor, not so constant and long as a convulsion, and more regular than mere twitching, yet it has in it some of the elements of all. It usually affects a part or whole of one or more limbs, the face or jaw, but it may sometimes affect the whole body. He says that the symptom may easily be overlooked in the beginning, as it usually lasts less than a second and does not recur, unless the patient is disturbed, oftener than every hour or so. Later the duration of the spells lengthens, first to a few and then several seconds; at the same time the intervals between become shorter. This condition is often accompanied by a peculiar cry similar to the hydrocephalic. At times there is a slight convulsive movement just like a chill, as mothers say, during which time the child is apparently unconscious, with eyes set for a few seconds, and then he apparently becomes normal again. This short unconscious spell with eyes set may occur without noticeable convulsive movements. It acts thus something like a *petit mal*. Colliver has observed it as a twitching of the lips with tongue running in and out and working of jaw, preceding bulbar cases.

Cleveland Medical Journal

October, XII, No. 10, pp. 647-722

61 Social Evil in Relation to Health Problem. J. H. Landis, Cincinnati, O.
62 Kinetic System: Theory. G. W. Crile, Cleveland.
63 Laboratory Studies of Activity of Brain and Adrenals in Response to Specific Stimuli. F. W. Hitchings, H. G. Sloan and J. B. Austin, Cleveland.
64 Treatment of Infantile Paralysis. G. I. Bauman, Cleveland.

Journal-Lancet, Minneapolis

November 15, XXXIII, No. 22, pp. 619-652

65 Notes from Surgical Clinics in Germany, Belgium and Great Britain—1913. W. J. Mayo, Rochester, Minn.
66 Who Should Do Surgery? M. M. Ghent, St. Paul, Minn.
67 Fecal Impaction Complicating Pregnancy. J. Grassick, Grand Forks, N. D.
68 Hypopituitarism, with Report of Case. T. J. Billion, Sioux Falls, S. D.

Kansas Medical Society Journal, Kansas City

November, XIII, No. 11, pp. 425-468

69 Acute Infections of Peritoneum. N. C. Morrow, Altamont.
70 Ulcer of Stomach. R. B. Gibb, Pittsburgh.
71 So-Called Social Evil. P. S. Mitchell, Iola.
72 Trachoma. C. A. Landes, Parsons.
73 Fact versus Mental Impression. W. R. Heylmun, Iola.

Medical Record, New York

November 22, LXXXIV, No. 21, pp. 921-966

74 Indications from Urine in Treatment of Certain Diseases of Skin. L. D. Bulkley, New York.
75 Public Value of Different Milks. C. E. North, New York.
76 Comminuted Fracture of Larynx — Accidental Tracheotomy — Multiple Trauma — Extensive Frostbite — Recovery. D. B. Delavan, New York.
77 Utility of Enzymes in Malaria. F. W. Lamballe, U. S. Army.
78 Fundamental Principles of Biochemistry, Their Application in Study of Colloidal Minerals and Their Resulting Use in Medicine. J. A. Handy, Buffalo.
79 *New Method of Repair for Vaginal Hernia, with Report of 140 Cases in Which It Was Used. H. A. Wade, Brooklyn.
80 Some Objections to Materia Medica Standardization, with Reference to U. S. Pharmacopeia. F. E. Stewart, Philadelphia.
81 Infantile Eczema. B. F. Ochs, New York.

79. **Repair for Vaginal Hernia.**—In Wade's method an incision is made beginning at the lateral mucocutaneous junction of the posterior aspect of the vaginal outlet. The amount of tissue that, without too much tension, may be brought up to the urethra, is estimated, and then the mucocutaneous junction at this point is grasped with a mouse-tooth forceps, and with slight traction a curved incision is made with the convexity directed toward the anus, extending to a point at the same level on the opposite side of the vaginal outlet. A flap of mucous membrane is now dissected upward, and with a clamp held clear of the field of operation. This flap is allowed to remain, and subsequently acts as an umbrella to protect the plastic work done below from the irritating discharges above. By means of the fingers the dissection is continued laterally on either side until a firm fascial layer is made out. Then these layers of fascia, not muscle, are brought together and held with a continuous suture of No. 2 chromic catgut. The superficial fascia is similarly united with the same strand of catgut. The skin is dissected free from the superficial fascia. A clamp is placed at the posterior angle of the skin incision and the wound is securely sealed with from four to seven clips. The clips are removed at the end of six to nine days.

New Jersey Medical Society Journal, Orange

November, X, No. 6, pp. 275-328

82 Nasal Hydrorrhea with Report of Case. H. Vaughan, Morristown.
83 Submucous Resection of Nasal Septum. T. W. Corwin, Newark.
84 Rapid Stomach Diagnosis, with Two Original Methods. S. Lewis, Lakehurst.
85 Postoperative Intestinal Stasis and Intra-Abdominal Use of Oil. W. F. Burrows, New York.
86 Results of Open-Air Treatment in Public Schools of Newark.

New Mexico Medical Journal, Las Cruces

November, XI, No. 2, pp. 43-80

87 Artificial Pneumothorax. A. G. Shortle, Albuquerque.
88 Hodgkin's Disease and Its Relation to Tuberculosis. G. E. Giese, Colorado Springs.
89 Observations on Altitude. F. E. Mera, Santa Fe.
90 Medical Profession in Its Relation to Tuberculosis Problem. J. W. Flinn, Prescott, Ariz.
91 Roentgen Ray in Pulmonary Tuberculosis. J. O. Walkup, Fort Bayard.
92 Specifics. C. L. Hendricks, El Paso, Tex.
93 Feeding of Tubercular Patients. E. C. Prentiss, El Paso, Tex.
94 Marked Hemorrhages from Intestines in Tuberculosis. L. S. Peters and E. S. Bullock, Silver City.

New York Medical Journal, New York

November 22, XCVIII, No. 21, pp. 997-1044

95 Recent Progress in Orthopedic Surgery. C. Ogilvy, New York.
96 Inoculation Therapy. M. J. Synnott, Montclair, N. J.
97 Prejudices and Superstitions Met with in Medical School Inspection. J. Sobel, New York.
98 Quantitative Chemical Reaction for Control of Positive Wassermann Reactions. D. M. Kaplan and J. E. McClelland, New York.
99 *Aurometer. M. Lubman, New York.

100 Test for Adult Imbeciles and Six-Year-Old Normals. H. A. Knox, Ellis Island.
101 Mylasis, or Fly Larvae as Parasites of Man. M. G. Wohl, Philadelphia.
102 Expectant School Diseases. H. B. Wood, Providence, R. I.
103 *New Apparatus for Proctoclysis. W. D. Miningham, Newark, N. J.

99. **Aurometer.**—The aurometer designed by Lubman consists of circular headband adjustable by a thumbscrew to fit any size of head. At the sides of this headband opposite the ears, are extended two angular bars graduated in one-half inches. On each bar is a sliding upright piece controlled by a thumbscrew and with a small hook at the top to suspend a watch; the watch will be in the exact line of the external canal. The headband has two eye shields to obstruct patient's vision, for obvious reasons. It is preferred that the watch should hang on a string from the hook, as it will prevent a solid contact of watch with the instrument to transmit vibrations. It is by moving this sliding upright with the watch that gives accurate data of the progress of the case.

103. **Apparatus for Proctoclysis.**—This apparatus consists of a vacuum bottle with a specially fitted brass stopper containing an outlet tube for the fluid and an inlet tube for air extending to the bottom of the bottle. The dropper consists of a glass barrel having an inlet tube with a stop-cock attached and an outlet tube. The most important part of the dropper is the air vent which not only eliminates any tendency toward a vacuum formation which would inhibit the flow, but also permits of the free expulsion of gases from the rectum without in any way contaminating the fluid in the container.

Ohio State Medical Journal, Columbus

November, IX, No. 11, pp. 515-574

104 Case of Polyuria with Study of Kidney Function. G. A. Fackler, Cincinnati.
105 Management of Industrial Accident Cases with Special Reference to End Results. C. D. Selby, Toledo.
106 *Drainage in Abdominal and Pelvic Surgery. C. L. Bonifield, Cincinnati.
107 Induction of Premature Labor. G. B. Booth, Toledo.

106. **Abdominal and Pelvic Drainage.**—Bonifield uses plain gauze wrapped with a thin layer of iodoform gauze and the large wick thus made is put in a rubber tube long enough to extend from the bottom of the abscess cavity through the abdominal wall. Enough gauze protrudes from the end of the tube to completely fill the abscess cavity. His reasons for using plain gauze wrapped in iodoform gauze are as follows: Iodoform gauze arrests hemorrhage better than plain gauze; it seems to be less irritating to the structures with which it comes in contact; they do not cling to it with the same tenacity, and it remains sweet longer when used in infected areas. This drain is applicable whenever drainage is required in the peritoneal cavity. Its size and length are subject to the widest variations. It is made of materials always to be found in any well-equipped operating-room. It requires little time to properly fashion them and most important of all one drain will in the majority of cases be sufficient to meet all requirements.

Bonifield mentions another method of drainage brought to the attention of the profession by Lawson Tait, but largely forgotten now, namely, free purgation with salts. By such purgation the peritoneum was made to absorb rapidly and take care of a limited amount of infectious fluid without much harm to itself. When other drainage is employed its use is seldom necessary, but when the abdomen has been closed without drainage and there is evidence of a mild infection of the peritoneum, Bonifield says he knows of no more rapid or more sure way of arresting the extension of the inflammatory process than by drainage through the intestinal tract produced by free purgation.

Pennsylvania Medical Journal, Athens

October, XVII, No. 1, pp. 1-84

108 Cohesive Function of Society Secretary. H. C. Macatee, Washington, D. C.
109 Medical Ethics in Relation to Roentgenology. D. R. Bowen, Philadelphia.
110 Defense of Alleged Malpractice Suits. C. L. Stevens, Athens.
111 Treatment of Impassible Stricture by Use of Air-Dilating Urethroscope. G. M. Dorrance, Philadelphia.

Public Health Journal, Toronto

November, IV, No. 11, pp. 591-638

112 Why Are Modern Infectious Diseases Mild. H. W. Hill, London, Ont.
113 Propagation, Cultivation and Distribution of Oysters. T. J. McKey, Toronto.
114 Civil Engineering and Its Relation to Public Health. J. Antonisen, Brandon, Man.
115 Dental Caries in Schoolchildren and Dental Inspection. W. D. Cowan, Regina, Sask.
116 School Grounds and Supervised Playgrounds. G. R. Jackson, Edmonton, Alta.
117 Need for More Complete Organization in Public Health Work. H. G. Pickard, Brandon, Man.

Surgery, Gynecology and Obstetrics, Chicago

November, XVII, No. 5, pp. 523-596

118 *Chronic Ascites. J. R. McDill, Milwaukee, Wis.
119 *Incontinence of Urine, Complete and Incomplete. J. M. Baldy, Philadelphia.
120 Osteitis Fibrosa Cystica. J. F. Percy, Galesburg, Ill.
121 *Acute Hemorrhagic Pancreatitis. G. H. Whipple and E. W. Goodpasture, Baltimore.
122 Benign Polyps of Male Urethra. A. Randall, Philadelphia.
123 *Surgery of Ileocecal Valve. J. H. Kellogg, Battle Creek, Mich.
124 Abdominal Incision in Treatment of Ovarian Cysts. P. B. Bland, Philadelphia.
125 *Irregular Kidney Vessels Found in Fifty Cadavers. R. R. Rupert, Chicago.
126 Hernia of Uterus and Both Adnexae. L. K. P. Farrar, New York.
127 Reaction of Human Organism to Class of Foreign Proteids Represented by Syncytial Cell. C. Foulkrod, Philadelphia.
128 Thrombosis and Embolism following Operation and Childbirth. R. R. Schenck, Detroit.
129 *What Are Best Methods of Educating American Women Concerning Cancer. F. J. Taussig, St. Louis.
130 Pyelitis Follicularis. H. L. Kretschmer, Chicago.
131 *Possibilities of Preserving Integrity of Potential Body Cavities by Use of Foreign Body to Prevent Adhesions. F. Prime, New York.
132 Isolated Disease of Scaphoid Bone of Foot in Children (Kochler's Disease). G. E. Pfahler, Philadelphia.
133 *Modification of Webster's Endoperitoneal Shortening of Round Ligaments. H. Schmitz, Chicago.
134 Eight Drawings Illustrating Steps of Suprapubic Prostatectomy. G. Kollascher, Chicago.
135 Dressing and Care of Herniotomy Wounds of Infants and Small Children. C. G. Buford, Chicago.
136 Value of D'Arsonval Current in Treatment of Benign and Malignant Tumors of Urinary Bladder through Operating Cystoscope. L. T. Ashcraft, Philadelphia.
137 *Method of Controlling Hemorrhage in Thyroidectomy. E. O. Jones, Seattle, Wash.

118. **Chronic Ascites.**—McDill's experiments show that the ends of three strands of No. 20 silk, sewed together, slightly projecting into the lower levels of the peritoneal cavity become a permanent silk-connective tissue peg; that the breach it makes in the abdominal wall allows the escape of fluid, and that the hernia liability is nil. The procedure need not confine the patient to bed for more than one day; is not much more formidable than an ordinary paracentesis abdominis, and can be repeated if necessary at any subsequent tapping until there is sufficient drainage. The permanency of any improvement will depend on the internal treatment.

119. **Incontinence of Urine.**—The points involved in Baldy's operation are: To make permanent pressure on the neck of the bladder and the bladder end of the urethra. This is accomplished by bringing the vaginal mucous membrane and the underlying fibrous tissue from side to side so tensely as to make firmer pressure. This is done by making a denudation of the vaginal mucous membrane and the underlying fibrous tissue at the neck of the bladder; and by bringing the edges of the incision together laterally by interrupted sutures of silkworm gut; and finally, by placing a single reinforcing suture with which to take tension off the suture already placed. The denudation is carried one-half to three-quarters of an inch both fore and aft from the neck of the bladder, in order to insure full pressure at the neck.

The denudation is an oval, the widest point of the oval being as near the exact neck as can be calculated, in order to insure most pressure at that point. The width of the denuded oval is limited only by the possibility of bringing the edges forcibly together with the aid of tenacula. This is important, as it is this which gives the pressure. The denudation is carried into, but not through, the underlying fibrous tissues; resection of this tissue is avoided. The object is to double the fibrous tissue on itself and get a deeper and firmer

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scar than could be gotten by a resection and bringing the comparatively narrow edges together.

The stitches are of fine catgut, interrupted. The first one is placed directly at the neck, in the cenetr of the oval. They are introduced laterally, are brought out at the bottom of the wound and reintroduced to be carried across and out on the opposite side. Care must be taken, however, not to leave a blind space in the depth of the wound. Too much tension cannot be made on the stitches: the width of the denudation had better be overdone than underdone. The idea is to make it as tense at this point as possible in order to make the utmost pressure. After all sutures have been tied the reinforcing suture is placed. The object of this suture is to draw the tissue from side to side of the vagina over the line of sutures already placed, so as to relieve them from tension until healing has occurred. In placing this suture a point well away from the line of sutures directly at the point of greatest tension is chosen so as to make full allowance for the subsequent cutting of this suture. The needle is introduced in the direction of the long axis of the vagina, so as to get abundance of tissue. A quarter of an inch, longitudinal to the line of suture, can be picked up on both sides of the line of sutures. The suture is carried in depth as far as possible without perforating the bladder mucous membrane. In this way a sufficiently large bunch of tissue is included in the grasp of the suture as to insure against cutting out before healing has fully occurred and the parts have adjusted themselves. The subsequent treatment consists in keeping the sutures as clean and dry as possible, and of the use of the catheter several times a day. The sutures are removed at the usual time for plastic work.

121. **Acute Hemorrhagic Pancreatitis.**—The peritoneal exudate in acute hemorrhagic pancreatitis, according to Whipple and Goodpasture, contains no toxic substances. It is harmless when injected intravenously or intraperitoneally in large amounts into normal dogs or those suffering from acute pancreatitis. The ferments which escape from the injured pancreas are rapidly neutralized, and this peritoneal exudate usually is free from proteolytic ferments and contains the same amount of lipase as does the blood-serum. The hemorrhagic peritoneal exudate may be looked on as having a neutralizing action and appears to benefit rather than injure dogs suffering with acute pancreatitis. Dogs with acute hemorrhagic pancreatitis which are subjected to exploration and removal of peritoneal exudate will appear sicker than control dogs left undisturbed. The pancreas can survive remarkable grades of injury, and this factor of safety should always be considered in drawing deductions from any surgical procedure. Its adaptability of repair seems greatest when the gland is left undisturbed in a closed abdomen.

123. **Surgery of Ileocecal Valve.**—The operation which Kellogg performs for insufficient ileocecal valve action does not differ from the ordinary mode of proceduce in end-to-side anastomosis of the small intestine with the colon except in one important particular—that there is a distance of two to three centimeters, measured along the surface of the intestine, between the inner and the outer suture lines. This permits the inverted small intestine to project into the colon about half an inch. The portion of the ileum thus intussusceptedforms a good valve for the reason that the folds of mucous membrane readily fall together whenever there is the slightest backward pressure. In Kellogg's opinion the so-called short-circuiting operation or ileosigmoidostomy, or any other operation whereby an anastomosis is made between the ileum and the colon, should never be performed without the construction of a valve for the prevention of reflux from the colon into the ileum. Without an ileocolic valve to prevent reflux, an ileosigmoidostomy performed for the purpose of getting rid of the intestinal intoxication arising from stasis in a looped, kindred or otherwise crippled colon may leave the patient in a condition as bad as, or even worse than, before the operation by practically converting into a colon many feet of his small intestine. The best point for attaching the ileum to the colon, Kellogg states, is near the upper end of the distal leg of the pelvic colon. Great care must be taken to avoid bruising or unnecessary handling of the intestine, so as to prevent adhesions, the formation of which about the point of anastomosis may become a source of obstruction.

125. **Irregular Kidney Vessels in Fifty Cadavers.**—Of the fifty cadavers, thirty-five, or 70 per cent., showed a unilateral or a bilateral anomaly of the renal arteries or the veins, or both.

129. Abstracted in THE JOURNAL, May 31, p. 1738.

131. **Preserving Integrity of Potential Body Cavities.**—In order to ascertain whether celloidin could be used to advantage in situations in which adhesions are most apt to form, the brain, joints and nerves were selected by Prime as the most suitable places to introduce the tissue. Within the cranial cavity there would be no adhesions if a piece of celloidin were placed beneath the dura, but between the celloidin and the dura, and often between the celloidin and the brain, a connective tissue membrane would form which was smooth and glistening and free from fibers binding it to the underlying tissue. The same thing was found along the nerves, and even when, as a mass, the celloidin was found wrapped in the omentum, the same glistening membrane was found, with the celloidin quite free within it.

The explanation of these phenomena seems to be that at the time of operation, when, for example, the dura is opened and manipulated, there is sufficient injury done to this delicate membrane to set up a reaction, and cause an exudate to be thrown out. The celloidin present prevents this from reaching the underlying surface, so that when the connective tissue begins to grow into this exudate, it simply grows along the surface of the celloidin and the dura, thickening the latter.

In cases of nerve suturing, the results were most satisfactory. A nerve in the foreleg which had been cut across and sutured with fine silk, and a celloidin tube slipped over the point of suture, at the end of ten days showed no evidence of the nerve being bound down, but was free in the tube, and at the end of six weeks another which had been wrapped with a piece of celloidin tissue showed a sheath of connective tissue which had formed over the celloidin, leaving the nerve healed and free beneath it. In places such as the joints it can be used to prevent the formation of new adhesions or hinder the reformation of old ones.

133. **Endoperitoneal Shortening of Round Ligaments.**—The modification which Schmitz proposes and has already executed in a few cases is as follows: Attach a Barrett ligature carrier to the ligature applied to the distal end and carry it between the layers of the broad ligament to the posterior surface of the uterus underneath its peritoneal covering. Make a very small perforation in the center of the peritoneal covering to enable one to catch the ligature and thus hold the ligament in position. The same procedure is now carried out on the opposite side. The two ligatures are tied, uniting the two ends of the round ligaments. The latter are finally secured to the posterior wall of the uterus by a few interrupted fine chromicized catgut stitches. These should only include a portion of the round ligament, to prevent gangrene of the same. Finally the proximal end of the round ligament is attached to the distal end as in the Alfieri modification, and the peritoneal incisions are closed. The round ligament now has the form of a Y. The advantages claimed for Schmitz's modification are: 1. The ligaments remain entirely extraperitoneal. 2. There is a mucomuscular attachment between the uterine mucosa and the denuded round ligament. 3. The method does not use the strongest portion of the round ligament for the shortening, hence the functional ability of this ligament is as nearly normal as possible.

137. **Method of Controlling Hemorrhage in Thyroidectomy.**—The following are the steps of Jones' procedure: The usual transverse collar incision is made, dividing the skin and platysma. The upper flap is freed to the upper border of the thyroid cartilage. Then at a point opposite the middle of the thyroid cartilage the fascia over the vertical muscles is slit in a longtudinal direction a finger's breadth inside the border of the sternomastoid muscle. This slit is extended upward

and downward for a distance of about two inches. With narrow-bladed retractors the fascia of the sternohyoid and the sternomastoid muscle is drawn outward, the sternohyoid and sternothyroid muscles inward. The finger is pushed down through this space until the pulsation of the carotid are felt. By blunt dissection the fascia just to the median side is penetrated when the finger is felt to be in the loose areolar tissue in front of the longus colli muscle. Retractors with longer blades are then substituted. The sternomastoid and carotid sheath are drawn well outward while the vertical muscles and thyroid gland are displaced inward. The space back of the carotid sheath is in this manner well exposed. The carotid tubercle, which is the important landmark, should now be located. About a finger's breadth below the tubercle, the artery is sought for with two pairs of blunt dissecting forceps. It lies in the loose connective tissue and at the extreme point of its arch seems to be surrounded by a sling of rather firm fascia which binds it to the carotid tubercle. When a short area is freed, a ligature may be passed around with an aneurysm needle. The ligature is tied, the retractors removed, and the parts allowed to fall back to their natural places, and the operation of intracapsular thyroidectomy proceeded with in the usual manner.

Texas State Journal of Medicine, Fort Worth

November, IX, No. 7, pp. 265-234

138 Decomposed Foods. J. S. Abbott, Austin.
139 Prevention of Insanity. J. H. Eastland, Mineral Wells.
140 Management, Care and Treatment of Insane at Southwestern Insane Asylum. F. S. White, San Antonio.
141 Arthroplasty. C. H. Harris, Fort Worth.
142 Median Transverse Fascia Incision. F. C. Floeckinger, Taylor.
143 Whiskey Fiend. W. C. Rountree, Fort Worth.
144 Case of Tetanus Treated with Antitetanic Serum and Chloral. R. C. Brookes, Waelder.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

September 27, XXXIV, No. 5, pp. 283-310

1 National Insurance in Its Literal Sense. A. C. F. Halford.
2 Acute Mania and Its Treatment. J. T. Anderson.

October 4, No. 455, pp. 311-334

3 Heredity. A. Saw.
4 Emotions and Their Relation to Mind. G. H. Taylor.

October 11, No. 456, pp. 335-356

5 Treatment of Persistent Arterial Hypertension of Middle-Aged and Elderly. R. F. Llewellyn.
6 Spastic Paraplegia Treated by Foerster's Method of Intradural Neurectomy. H. Norrie.

October 18, No. 457, pp. 357-380

7 Cases of Pellagra-Like Lesions in Australia. C. A. Hogg.
8 Radicular Neuritis. J. C. Verco.

British Medical Journal, London

November 8, II, No. 2758, pp. 1193-1268

9 Hysteria in Some of Its Aspects. T. R. Glynn.
10 Rational Treatment of Chronic Bacillary Dysentery. L. Rogers.
11 *Gastric Tetany in Adult. W. K. Irwin.
12 *Case of Acute Dilatation of Stomach in Course of Operation for Duodenal Ulcer. W. G. Richardson.
13 Dupuytren's Contraction Successfully Treated by Open Incision and (Thiosinamin) Fibrolysin. A. H. Tubby.
14 Chronic Interstitial Nephritis in Children. H. Barber.
15 Yeast Infection in Children. R. Craik.
16 Salicylic Ionization in Acute Pericarditis. J. S. Mackintosh.
17 Sleep and Treatment of Sleeplessness. G. Savage and W. H. B. Stoddart.
18 *Micrococci in Blood and Cerebrospinal Fluid of Two Cases of Mania. W. Boyd and G. L. Brunton.
19 Present Position of Psycho-Analysis. M. D. Eder.
20 Treatment of Alcoholism by Suggestion. H. E. Wingfield.
21 Case of Extensive Amnesia of Remote Date Cured by Psycho-Analysis and Hypnosis. W. Brown.
22 Vertigo. J. S. R. Russell.
23 Truths about Mental Healing. T. A. Williams.
24 Motor Show from Medical Man's Point of View. H. M. Bulst.

11. **Gastric Tetany in Adult.**—Irwin has collected the records of thirty-nine instances of the disease. Of this number 24 were males and 15 females. The average age at which the disease appeared was 42, the youngest patient being 20, and the eldest 66. In the great majority of the cases the symptoms of gastric disease had existed for many years prior to the onset of the nervous affection, and in only three instances out of the entire number for a period of less than twelve months. Out of 19 cases in which an accurate account of the post-mortem examination is recorded, 11 exhibited a dilated stomach, due to the contraction of a chronic ulcer in the pyloric region. In one case the pylorus was greatly contracted from the cicatrization of a chronic ulcer, but there was not much dilatation of the stomach; in two cases the gastric dilatation was dependent on the cicatrization of an ulcer in the first portion of the duodenum. In one case cancer of the pylorus coexisted with chronic ulcer, but in another case a large growth, evidently cancer, was found at the pylorus. In only two cases was the increase in the size of the stomach found to depend on simple atony of its walls. From these facts, Irwin says, it is evident that in the majority of these cases dilatation of the stomach was a long-standing affection, and owed its origin to the presence of a chronic ulcer in the pyloric region. In the majority of the cases the nervous symptoms consisted of a tonic contraction of the muscles of the hands, forearms, feet and legs, but in a few, tetanic contraction of the jaw and body muscles were present. In three cases seizures of an epileptiform nature were present. Out of the 39 cases recorded only 11 recovered. Every drug, from calomel to the latest antiseptic, has been tried. Numerous authorities recommend gastric lavage, but this is a rather dangerous procedure, as passing the stomach tube, even a soft one, very often induces a severe attack of tetany. Others have advised the patient to take a large quantity of water, followed by an emetic, but Irwin could not find any case recorded in which this treatment had been successful. The only treatment up to the present that has given hopeful results is operation, but even this has not always prevented a recurrence of this grave disorder. The patient should have a dose of calomel and then a saline purgative every morning. Fifteen ounces of peptonized milk should be given by the rectum every six hours, and the bowel should be kept well cleansed by giving a saline or soap enema once every twelve or twenty-four hours, and about an hour before the rectal feed. Oral sepsis must be avoided by daily washing the mouth and cleansing the teeth and gums. This will also prevent parotitis, at one time a serious complication. In cases in which rectal feeding has been necessary and food by the mouth has been prohibited, the patient should have a rubber teat to suck. By the above method, Irwin claims the attacks become less frequent and less severe, and tend to disappear usually about the third or fourth day of treatment.

12. **Acute Dilatation of Stomach.**—Richardson saw this patient seven hours after the sudden attack. He says there was no difficulty or doubt about the diagnosis, but three features of the case were noted as unusual: 1. The abdomen had not the extreme board-like rigidity generally present in such cases; indeed, for a case of ruptured ulcer, the abdomen was rather lax. 2. There was abdominal respiration and very little movement of the chest-in contrast to the usual fixity of the abdomen in such cases of recent peritonitis. 3. The pupils were widely dilated. The abdomen was opened and the diagnosis was confirmed, a chronic duodenal ulcer about half an inch from the pylorus with a perforation at its center. There was lymph on all the adjacent peritoneum, the stomach was empty and small. The hole in the duodenum was closed with a catgut purse-string suture reinforced by a row of silk sutures. The operation was simple and easy in every way but one. The only trouble arose from the difficulty in administering the anesthetic satisfactorily. Anesthesia was induced with chloroform (he appeared to be an alcoholic man, and he struggled a good deal), and it was kept up with ether, given by the open method, throughout the operation. Richardson had sewn up about two-thirds of the peritoneal wound when he noticed about two-thirds of the upper part of the abdomen was distending. In less than half a minute the stomach was bulging into the lower part of the wound and the distention increased so rapidly that the suture had to be unlaced. The stomach dilated more and more until it became drum-like and very tense. It appeared to be anchored at the pylorus and the cardiac extremities, because, as the distention increased,

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it rolled upward, bringing the greater curvature forward. The veins on the stomach became very prominent and enlarged. Richardson did not see any distention of the duodenum, and the lower part of the abdomen did not increase in size. A stomach tube was passed by the mouth, and immediately there was a rush of gas through the tube, and the distention disappeared. The stomach then became firmly contracted and not greater in diameter than a piece of large intestine. The muscular contraction was extreme and there was no peristaltic wave. It contracted in sections, there being alternating white rings and intervening portions more naturally colored. The venous engorgement of the stomach also disappeared entirely. At the same time the respiration became quiet and wholly thoracic, the complexion became pink, the pupils contracted, and the whole aspect of the patient changed. Less than five minutes elapsed between the beginning of the distention and recovery. The patient did well, and did not differ in his after-progress from other cases of ruptured duodenal ulcer.

18. **Micrococci in Blood and Cerebrospinal Fluid in Two Cases of Mania.**—In two cases of toxic insanity a diplococcus was isolated from the blood and cerebrospinal fluid on more than one occasion by Boyd and Brunton. In the one case the organism was Gram-negative, did not grow on gelatin, produced acid and clot in milk, and acid and gas in glucose; in the other the organism was Gram-positive, grew on gelatin but without liquefaction, produced no change in milk, and acid alone from glucose. A number of similar cases showing leukocytosis and other indications of toxemia were examined bacteriologically, but in every case with a negative result.

Edinburgh Medical Journal

November, XI, No. 5, pp. 385-480

25 Development of Bacteriology and Place It Occupies among Sciences. J. Ritchie.
26 Eczema: Its Prevention and Treatment. W. A. Jamieson.
27 *Perforated Duodenal Ulcer. F. M. Caird, J. M. Cotterill and Others.
28 Operations for Harelip in Out-Patient Department. J. H. Nicoll.
29 Elephantiasis Neuromatosa. N. S. Carmichael.

27. **Perforated Duodenal Ulcer.**—This is a collective report on a series of 200 cases of perforated duodenal ulcer treated in Edinburgh between 1896 and 1912. For details the original article should be consulted.

Journal of Laryngology, Rhinology and Otology, London

November, XXVIII, No. 11, pp. 565-620

30 Direct Examination of Eustachian Tube and Nasopharynx. J. W. Wood.
31 Simple Prothesis after Removal of Great Part of Lower Jaw. J. v. d. H. Leonhard.
32 Primary Intranasal Syphilis. N. Maclay.
33 Brain Abscess of Aural Origin. J. Murphy.

Journal of Obstetrics and Gynecology of British Empire, London

September, XXIV, No. 3, pp. 133-196

34 *Blood-Pressures in Cases of Normal and Abnormal Pregnancies and Labors. M. Donaldson.
35 *Results of Radical Operation for Carcinoma of Cervix Uteri. C. Berkeley and V. Bonney.
36 Intra-Abdominal Pressure in Pregnancy. R. H. Paramore.
37 Retained Placenta due to Implantation in Sacculus or Horn of Uterus. V. B. G. Armytage.
38 Case of Spontaneous Rupture of Uterus at Eighth Month. V. B. G. Armytage.
39 Hysterectomy by Two Suture-Ligatures. R. L. Dickinson. Brooklyn.

34. **Blood-Pressures in Pregnancies and Labors.**—Having examined the blood-pressure in cases of albuminuria complicating pregnancy, Donaldson found that the most striking feature is the high systolic pressure in each case. Further, he noticed that in purely toxic cases the pressure tends to fall quickly to normal after delivery. In the question of treatment, the observations on blood-pressure seem to be of some importance. A rising blood-pressure in spite of treatment is considered by Donaldson to be an indication for terminating the pregnancy. Observations of blood-pressure were made also in a case of pernicious vomiting in which labor had to be induced. In this condition the pressure is not raised, a fact that suggests to Donaldson that the toxin in these cases differs from that of albuminuric cases. The blood-pressure estimated in a case of glycosuria complicating pregnancy showed nothing abnormal.

35. **Operation for Carcinoma of Cervix Uteri.**—The authors' 71 operations were chosen from 112 patients with carcinoma of the cervix presenting themselves for treatment over the period April, 1907, to June, 1910—an operability rate of 63 per cent. These 112 cases represent every patient that came under observation. Sixteen patients died of the operation; 20 died of recurrence; 2 died of intercurrent disease; 2 disappeared; 3 are alive, but with recurrence; 28 are alive and well. Ten patients died of shock, 2 died of paretic ileus, 1 of mechanical ileus, 1 of pelvic suppuration and empyema, 1 of post-operative hemorrhage and 1 of bronchopneumonia. The deaths by shock comprise those who succumbed a few hours after the operation, apparently as the result of its severity and in whom no signs indicative of any other cause of death could be found either clinically or on autopsy. In the cases in which the glands proved to be carcinomatous at the operation the mortality was 29.5 per cent. In 23 cases the disease recurred. Three of these patients are still alive at periods of four years or over from the operation. In only one place did the recurrence take place in the vaginal scar. In the rest the growth has appeared either in the upper part of the pelvis or in the situation of the aortic glands. The recurrence rate, therefore, if reckoned on those surviving the operation (55) works out at 41.8 per cent. These figures rest on a three years' basis.

Journal of Tropical Medicine and Hygiene, London

November 1, XVI, No. 21, pp. 81-344

40 Bronchial Spirochætosis. A. J. Chalmers and W. R. O'Farrell.
41 Apparent Identity of Agchylostoma Ceylanicum (Looss, 1911), and Agchylostoma Braziliense (Faria, 1910). R. T. Leiper.

Lancet, London

November 8, II, No. 4706, pp. 1299-1366

42 *Heredity and Inheritance as They Concern Physician. C. Mercier.
43 *State of Blood-Vessels in Shock. J. D. Malcolm.
44 Typhoid Carriers. D. S. Davies and I. W. Hall.
45 Diseases due to Deficiencies in Diet. F. G. Hopkins.
46 *Sensitized Virus Vaccination in Gonorrhea, and Especially Its Complications. L. Cruveilhier.
47 *Some Additional Experiences of Nerve Surgery. A. H. Tubby.
48 Public Measures for Prevention of Tuberculosis. N. Raw.
49 Bacteriologic Diagnosis of Case of Plague. W. J. Tulloch.
50 Estimation and Significance of Amino-Acids in Urine in Diabetes Mellitus. P. J. Cammidge.
51 Mortality of Children from Burning. W. A. Brend.

42. **Heredity and Inheritance in Relation to Physician.**—From his observations Mercier summarizes his views as follows: In the first place, if a child is very precocious it is never safe to predict that it will set the Thames on fire. Mercier excludes musical prodigies or calculating prodigies, because music and mathematics, like chess, and linguistics, and certain other faculties, have no relation to general ability. They may be highly developed in the dull, and they may be absent in exceptionally clever men. They go for nothing. In the second place, when a hitherto intelligent child becomes stupid, dull, clumsy and even when it exhibits mental traits that are distinctly abnormal and alarming, we need not be much concerned if we find that it has started into rapid growth; and if the growth is very rapid almost any mental symptom may be witnessed without alarm. In the third place, we need not fear ill results from stimulating the intelligence of a child, even of a precocious child, provided it is healthy in body, eats well, sleeps well, and is not disturbed by dreams, and provided we do not continue the stimulation into the period when bodily growth has started and the development of mind has no backing. The week that the child starts into growth all stimulation of the intellect should cease; and when the growth is rapid intellectual exertion should be restricted and watched with vigilance. Especially if there is in the family any tendency to nervous or mental disorder, children who are growing very rapidly should be withdrawn from school altogether until the period of rapid growth is over. Mercier says that if he had charge of a school he should measure and weigh the children frequently, and should

regulate their intellectual exertion according as growth was active or quiescent. He does not think that intellectual work at high pressure is harmful to either boys or girls as long as food, sleep and bodily exercise are sufficient; but is quite sure that pressure of intellectual work in those who are growing rapidly should never be permitted; and if growth is proceeding very rapidly, all intellectual work should be put aside. Another thing which, in his opinion, requires careful regulation is the diet. It is scarcely possible to give growing children too much to eat, and it should always be borne in mind that the carbohydrates—starch, sugar and fat—are mainly fuel that is burnt up in producing muscular movement, and that the proteins are the main elements in the formation of tissue. Consequently, it is a mistake to restrict the meat ration of children.

43. **State of Blood-Vessels in Shock.**—Malcolm is in accord with Henderson, that in cases of fever, of postoperative intestinal obstruction, and of traumatic shock there is a persistent and increasing contraction of the arteries, a conclusion which he believes to be demonstrable at the bedside.

46. **Sensitized Virus Vaccination in Gonorrhea.**—Cruveilhier has not yet come to any final conclusions concerning the various modifications which, in his opinion, ought to be made in Besredka's method of sensitized virus vaccination in order to adapt it to the treatment of gonorrhea. Yet he is able to state that, as has been proved by the experiments of Metchnikoff and Besredka in antityphoid vaccination, it is always preferable to inject living sensitized virus. In a certain number of cases, when Cruveilhier had absolutely failed while persisting in using dead sensitized virus, he obtained excellent results from the use of living sensitized virus. The serum which he employed in his operations was taken from a she-goat to which he had successfully applied Besredka's subintrant injections of the veins in order to render it immune. He considered that it was not advisable to take from the patient himself the gonococci to be sensitized, and he took them from the cultures which he had had in stock for several months. The injections were principally made in the subcutaneous cellular tissue and were repeated at intervals varying according to the different cases. None of the patients showed any sign of severe general reaction. In some cases there was a slight rise of temperature during the hours which followed the injection. Sometimes Cruveilhier also noticed at the site of the injection some erythema accompanied by a pain which never lasted longer than forty-eight hours.

47. **Experiences in Nerve Surgery.**—Brachial plexus lesions, if traumatic, Tubby says, are hopeful, if the loss of power has not existed for years. If due to other causes the outlook is not so good. However, he cautions that we should not despair of a case recovering, even five years after the operation, provided that the improvement has set in within three months after the operation and is continuous. Popliteal neuroplasty for infantile paralysis, he says, has proved disappointing for the reasons given previously. Injuries about the wrist should never be sewn up until the continuity of the nerves has been ascertained, and until all the electrical reactions have been tested. If the lesion of the nerve is compression by a scar the outlook after operation is most hopeful. If the nerve has been severed primary operation is very hopeful, but secondary suture rarely permits a complete recovery. No case, however, of traumatic nerve lesion Tubby would regard as hopeless, in view of the achievements of neuroplasty. Tubby calls attention to a painful condition connected with enlargement of the head of the first metatarsal bone, where there is not only tenderness on the inner side of the joint but also severe pain on its outer side and in the first interdigital space. This is a condition special to those cases in which there is lipping of the joint surfaces and a deposit of osteophytes, and the cause appears to Tubby to be as follows: On dissecting the part there will frequently be found a communicating branch passing from the digital trunk of the anterior tibial nerve to the corresponding nerve on the plantar surface. This communicating branch arises opposite the most prominent part of the head of the bone and passes immediately downward over the capsule of the joint, to which in inflammatory cases it is often adherent, and it joins the digital branch of the internal plantar to the outer side of the great toe. It is easy to see how painful compression may arise, and the remedy Tubby has adopted is simple: it e, to dissect away the communicating branch and remove the osteophytes.

Annales de l'Institut Pasteur, Paris

XXVII, No. 9, pp. 701-796

52 Piroplasmosis in Dogs in Europe and Africa. A. Laveran and N. Urtan-Larrier.
53 *Acute Epidemic Poliomyelitis. C. Kling and C. Levaditi. To be continued.
54 Agglutinating and other Properties of Serum of Patients with Trypanosomiasis in French Congo. F. Heckenroth and M. Blanchard.
55 Malaria in Corsica. M. Leger.

53. **Epidemic Poliomyelitis.**—See editorial in THE JOURNAL November 22, p. 1904.

Annales de Médecine et Chirurgie Infantiles, Paris

November 1, XVII, No. 21, pp. 705-740

56 Obesity in Children. (Le syndrome adiposo-génital de l'enfant.) G. Mouriquand. Concluded in No. 22. See Paris Letter, Nov. 8, p. 1730.

Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

October, II, No. 10, pp. 145-304

57 Retroplacental Hemorrhage. E. Essen-Möller.
58 Organotherapy in Gynecologic Disease. S. R. Girol.
59 Attempts to Induce Criminal Abortion with Extra-Uterine Pregnancy. A. Turenne.
60 Superheated Air and Steam in Gynecology. R. Dupont.

Grèce Médicale, Athens, Greece

XV, Nos. 15-16, pp. 29-32

61 The Yellow Oxid of Mercury Combines with Sodium Chlorid in the Secretions and Has Caustic Action on the Eye. (Pommades ophthalmiques à base de bioxide jaune de mercure.) P. Apéry.

Nos. 17-18, pp. 33-36

62 *Means to Prevent and Cure Hernia of the Brain. (Nouveau procédé de contention de la hernie cérébrale consécutive à un traumatisme ou à une operation.) T. Anastassiades.

62. **Means to Reduce Hernia of the Brain.**—Eleven days after extensive injury of the temporal region from a shell, the wound was the seat of extensive suppuration and the young man was in profound stupor most of the time. There was total amaurosis when he sat up; vision returned when he reclined, but there was no vomiting nor stiffness of the neck. After the wound had been attended to, the brain tissue protruded, the hernia as large as a hen's egg. No means proved effectual in keeping the hernia under control until finally Anastassiades improvised a stopper which answered the purpose admirably. A round of sheet lead was bent over a metal cylinder to make a depression in the center just large enough and deep enough to fit into the gap in the skull. This stopper was boiled and applied between two sheets of gauze. The brain tissue was thus reduced and held firmly in place while several holes bored in the lead cap permitted ample drainage. As the lesion healed, smaller and smaller caps were used. In two other battle-field cases this lead device proved equally serviceable; these patients also promptly recovered.

Journal de Médecine de Bordeaux

October 26, LXXXIV, No. 43, pp. 687-700

63 Prophylaxis in Obstetrics. P. Balard.

November 2, No. 44, pp. 701-716

64 Abnormal Respiration Rhythm. (Les altérations du rythme respiratoire.) P. Mauriac.

Lyon Médical, Lyons

October 26, XLV, No. 43, pp. 653-708

65 Fracture of the Wrist. (Fracture du scaphoïde du carpe avec luxation de son fragment supérieur et du semi-lunaire en avant et en dedans.) Jaboulay.

November 2, No. 44, pp. 709-748

66 Gall-Stones in Common Bile Duct. (La lithiase du cholédoque.) E. Villard and E. Perrin. Commenced in No. 42.

Presse Médicale, Paris

October 25, XXI, No. 87, pp. 865-876

67 Latent Spina Bifida. A. Broca.
68 Concentrated Solutions of Neosalvarsan in Syphilis. (La suppression du rôle nocif de l'eau.) P. Ravaut.

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October 29, No. 88, pp. 877-884

69 Spondylosis and Spondylitis. J. Crespin.

November 1, No. 89, pp. 885-896

70 Action of Sodium Chlorid on Renal Secretion. H. Roger.
71 Polyneuritis and Edema in Native African Troops. L. Jullien.

Revue Pratique d'Obstétrique et de Gynécologie, Paris

October, XXI, No. 10, pp. 289-310

72 Cesarean Section for Contracted Pelvis. L. Poulot.
73 *Puerperal Phlebitis. G. Keim.
74 Ruptured Extra-Uterine Pregnancy. G. Potherat.

73. Puerperal Phlebitis.—Keim has long affirmed that puerperal phlebitis may occur without infection, merely from the combined effects of the impeded circulation from the pregnant uterus and of intestinal auto-intoxication. The functioning of the intestines is hampered as well as that of the vessels by compression from the enlarged uterus, and the liver suffers also, directly or indirectly. One of the principal functions of the liver, its anticoagulation action, may be seriously impaired, and this invites thrombosis, that is, coagulation and accumulation of sediment at points where the blood-stream is most sluggish or where there are eddies and back currents.

Phlebitis and phlegmasia of purely toxic and mechanical origin simulate infectious affections of the kind, but they relieve the obstetrician and the nurse of direct responsibility for them and are generally inclined to be benign. Much can be done in prophylaxis. The intestines and the liver must be supervised with special care during the pregnancy and the uterus should be completely evacuated after delivery. Equally important are measures to reduce the tendency of the blood to abnormally early and excessive coagulation. He has been gratified with the results of organ therapy for this purpose, giving in an enema 100 gm. of fresh calf liver in emulsion in 250 gm. of water, to which 10 gm. of peptone have been added. This aims to induce an anticoagulation action from the calf liver to supplement the insufficient action in this line of the patient's liver. He regards this as a specific organ therapy, and has never had phlebitis develop in the cases in which the method has been applied and has witnessed the prompt relief of symptoms in cases of already developed phlebitis. Sobre-Casas has also reported equally favorable experiences with this form of opotherapy in puerperal phlebitis. Other means to combat the tendency to excessive coagulation may be useful likewise. During the pregnancy Keim insists on treatment of any intestinal trouble and constipation, especially if there has ever been a case of phlebitis in the family or the patient feels pain in the side, or has ever had signs of liver trouble. He warns that intra-uterine injection of any fluid is liable to induce an actual aseptic metrophlebitis.

Semaine Médicale, Paris

October 29, XXXIII, No. 44, pp. 517-528

75 Gas Cysts in the Intestines. (La pneumatose kystique de l'intestin.) F. Lejars.

Archiv für klinische Chirurgie, Berlin

CII, No. 3, pp. 563-860. Last indexed Nov. 8, p. 1754

76 *Cancer of the Large Intestine, Rectum Excepted. (Die chirurgische Behandlung der malignen Dickdarmgeschwülste.) W. Körte.
77 *Cancer of the Colon. J. Rotter.
78 *Epidural Hematoma. M. Nunberg.
79 *Treatment of Scoliosis. A. Schanz.
80 Plastic Operation for Hour-Glass Stomach. (Die Curvaturplastik bei Sanduhrmagen.) K. Bödinger.
81 Resection of the Knee in Children. H. Alapy.

76. Cancer of the Large Intestine Outside of the Rectum.—Körte devotes nearly ninety pages to analysis of the 254 cases of cancer of the cecum and colon which he has encountered since 1890. The radical operation in eighty-three cases gave a mortality of 62.5 per cent. when the cancer was in the transverse colon and of 45.4 per cent. when located in the descending colon, but the mortality was only 26.4 per cent. when the cancer was at the sigmoid flexure, and only 16.6 per cent. in the thirty cases of cancer in the cecum or ascending colon. He tabulates these experiences in seventeen tables, comparing them with reports from other clinics. The average mortality in all is practically the same, about 30 per cent. The special dangers of cancer in the large intestine are due to the peculiar anatomic conditions and the difficulty of taking care of the contents. He reiterates that with acute obstruction the intestine should be opened in the simplest manner and the growth not removed until later. With chronic stasis and when the nourishment of the stump is defective, it is wiser to operate at more than one sitting. But when the bowel can be thoroughly evacuated and the blood-supply is adequate and the stumps can be united without traction, the resection and suture can be done in one sitting. The prospects for a permanent cure are comparatively favorable with cancer of the large intestine; he has 27.7 per cent. surviving for more than three years in his eighty-three operative cases. In the majority of the permanent cures the cancer was in the sigmoid flexure or ascending colon or cecum. He cites the reports from fifteen clinics, showing 38.3 per cent. surviving over three years, among 434 patients treated by resection; in some the interval since has been up to eighteen years.

77. Cancer of the Colon.—Rotter compares his experience in 160 cases with Körte's and gives the details of forty-nine. He classifies the cases according as there was ileus or not. The mortality with ileus is from 70 to 79 per cent., while without it the mortality was only 20 per cent. He emphasizes the advantages of ileotransversostomy for tumors in the right colon; he has had no mortality with this during the last four years, and no mortality at any time from ileosigmoidostomy in the six cases in which conditions called for this technic.

78. Intracranial Extravasation of Blood.—Nunberg emphasizes the importance of suspecting rupture of the middle meningeal artery in every case of trauma of the skull, and reports eight cases from the Freiburg clinic which show that an epidural hematoma may develop and even prove fatal from compression of the brain without inducing the typical symptoms. In place of the typical symptoms of pressure on the brain there may be merely vague manifestations which must be regarded as equivalents for the classical symptoms. In some of his own cases the motor restlessness of the patients was striking; this symptom has been noticed by others, and he urges its importance as a sign of injury of the meningeal artery in dubious cases. Other warning signs are transient changes in the pulse-rate, the pulse growing slightly slower or irregular at times. Another important sign that must be sought for is contralateral disturbance of the oculomotor muscles when there is a bruise in the parietal region. An operation to relieve the pressure on the brain should not be deferred to wait for all the signs of pressure on the brain to develop; puncture or exploratory trephining should be considered whenever there are grave manifestations. He adds in conclusion that the puncture or exploratory trephining should be done freely and extensively; a hospital environment is not necessary. In only one of the eight cases he reports was the classic picture presented, and consequently no attempt at operation was made, and seven of the eight patients died. In the other case, which may be regarded as a spontaneous cure, Korsakoff's psychosis developed later. In only one of the cases was the pulse typical of pressure on the brain; in two patients not one of the classical symptoms could be detected.

79. Scoliosis.—Schanz's article fills nearly a hundred pages and is accompanied by numerous illustrations; it was read at the recent international congress at London. He says that recovery from ordinary benign scoliosis is the rule under any treatment, without any treatment, or in spite of any treatment, and rachitic scoliosis is also under our control if the patient comes into our hands early enough so that the rachitis can be cured in time. But constitutional scoliosis is another matter. We may succeed in arresting the deforming process but we cannot guarantee that this cure will persist, as the scoliosis is the result of unknown processes inside the body. He thinks we have accomplished in the treatment of scoliosis about all that is possible, and for further progress we must look to pathology. The cause of constitutional scoliosis must be some morbid process severely injuring the bone tissue of the vertebrae and thus reducing their weight-bearing capacity. Of what nature is this process? To call it tardy rachitis does

not answer this question, for the clinical course and the clinical findings of constitutional scoliosis are very different from those of true rachitic scoliosis. As long as we class together habitual scoliosis, the congenital, the static, the paralytic and scoliotic sciatica, we may expect confusion—if you eat chocolate and cheese off the same plate, he remarks, you will never know exactly how each tastes.

He is convinced that the school does not bring on scoliosis but rather tends to prevent it by reducing the demands on the spine for certain hours of the day. Vertical handwriting, special desk-seats, reform in dress, and special gymnastic exercises do not banish scoliosis from the schools. We find as many cases of curvature of the spine in schools where all this is done as in those in which nothing of the kind is attempted. In treatment, the indications in the individual cases presented by the developing and the already developed deformity form the most important and most responsible elements for treatment and the most interesting, as each case must be strictly individualized as he shows by illustrated descriptions of the course of a number of cases. He warns that gymnastic exercises are liable to do harm in some cases, and that the benefit apparently realized is a deceptive correction. The courses of special gymnastics for curvature of the spine should be restricted to comparatively strong children and to cases in which the weight-bearing balance has not been too seriously upset.

Berliner klinische Wochenschrift

October 27, L, No. 43, pp. 1977-2024

82 *Chronic Otitis Media. (Chronische Mittelohreiterung.) D. Schwabach.
83 *Benzol in Local Treatment of Cancer. G. Kiralyfi.
84 Retropharyngeal Tuberculous Lymph-Node. E. Heymann.
85 The Shock with Various Methods of Anesthesia. (Vergleich der unmittelbaren und Nach-Wirkungen der Spinal- und Lokalanästhesie mit denen der Inhalationsanästhesie hinsichtlich des Shocks und psychischen Shocks.) Y. Henderson (New Haven).
86 Present Status of Treatment of Cancer. (Behandlung der bösartigen Geschwülste.) F. Blumenthal. Commenced in No. 42.

82. **Chronic Otitis Media.**—Schwabach describes in general the pathology and treatment of chronic disease of the middle ear. He says that even when it is possible to cure the old otorrhea and heal up the perforated membrane, yet generally the hearing is left permanently impaired. More frequent are the cases in which the suppuration seems to be cured but the perforation in the membrane does not close and thus it provides an opening for entrance of infection, bringing back the old trouble. He agrees with Wilde that so long as there is discharge from the ear we can never say how, when and where it will end nor to what it may lead. He gives directions for cleaning out the secretion, and says that Bezold's method frequently cures the old affection and in the simplest way. It aims to cleanse the secreting surface from all sepsis germs and exclude it from new influx of germs from the air. He accomplishes this by injecting a boric-acid solution until the outer passages and tympanum are cleansed. Then after thorough drying with the air douche, he insufflates finely pulverized boric acid and pours more into the outer passages which he then plugs with medicated cotton. This procedure is repeated as often as the cotton is moistened with secretion. Schwabach says that since he has been using this method he has had no need for local astringents, but he warns that it should be done by the physician and never given over to the patient. This method fails of course when there are other complications and he discusses the means to meet these.

83. **Benzol in Cancer.**—Kiralyfi reports two cases of inoperable recurring mammary cancer in a man and a woman, in which he applied benzol, suggested by its action in leukemia. In both cases the cancer tissue was destroyed by the direct contact with the benzol, but the cancer tissue beyond continued its course unmodified. Benzol has evidently a remarkable influence on the cancer cells, but this is merely a local action; there can be no question of a curative influence on the cancer from the benzol. He says that this applies also and in the same way to Roentgen therapy, thorium or any other non-surgical means of treatment.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

XVII, Nos. 4-5, pp. 297-402. Last indexed Oct. 11, p. 1412

87 *Tuberculosis of the Prostate. F. A. Hesse.

87. **Tuberculosis of the Prostate.**—Hesse's analytic and critical study of the literature on this subject fills this entire number of the *Centralblatt*. He classifies the literature alphabetically by the authors—a total of 1,201 titles. The testimony all points to the superiority of operative treatment, radical removal of the focus into sound tissue. Concomitant pulmonary tuberculosis often becomes materially improved when the focus in the prostate has been done away with. Conservative measures may relieve and improve the prostate lesion, but only in the rarest instances is a cure realized without an operation.

Correspondenz-Blatt für Schweizer Aerzte, Basel

October 25, XLIII, No. 43, pp. 1445-1476

88 Mountain Climate from the Therapeutic Standpoint. (Indikationen und Kontraindikationen des Hochgebirges im Allgemeinen.) C. Stäubli.

November 1, No. 44, pp. 1377-1408

89 The Morally Defective. (Wesen und Behandlung der moralisch Schwachsinnigen.) K. Gehry.

Deutsche medizinische Wochenschrift, Berlin

October 30, XXXIX, No. 44, pp. 2129-2176

90 *Changes in Our Estimation and Use of Lavage of the Stomach. (Ueber Wandlungen in der Lehre von den Magenausspülungen.) I. Boas.
91 *Etiology of Variola and Vaccinia. E. Paschen. (Ueber Aufschliessung, Isolierung und Einengung von reinem vakzinalen Virus—Paschen's Körperchen—aus tierischen Schutzblattern—Kuhpocken—auf mechanischem Wege.) G. Paul.
92 *Abderhalden's Serodiagnosis of Mental Diseases. (Weitere Untersuchungen mit dem Abderhaldenschen Dialysierverfahren an Geisteskranken.) J. Fischer.
93 *Action of Light on the Animal Organism. L. Pincussohn.
94 Roentgen Diagnosis of Syphilis of the Aorta. F. Eisler and S. Kreuzfuchs.

90. **Lavage of the Stomach.**—Boas comments on the way in which experience has shown the advisability of restricting the use of the stomach-tube in treatment of chronic stomach affections to a preliminary clearing out of the organ, to start the course of dieting. Repeated lavage of the stomach is not required afterward with mild degrees of stenosis. Once cleared out, there is no further use for the stomach-tube and it merely torments the patient. The stomach will take care of fluid food for a week, and then soft foods can be added, gradually increasing the diet until the tolerance limit is reached, the so-called microretention. This should then be the standard diet, and be kept up for weeks. The case is different with advanced uncontrollable stenosis, but repeated lavage is not necessary even here as the surgeon should be called in without delay. If the patient refuses an operation, the diet should be regulated so that lavage will not deprive the organism of too much nourishment. A combination of purgatives with antiseptic rinsing out of the stomach may be useful, but he never gives the antiseptic until after the stomach has been thoroughly rinsed out. He has found magnesium salicylate the best for the purpose (from what can be taken up on the tip of a knife to a teaspoonful, three times a day). With chronic stagnation from benign and malignant stenosis of the pylorus, simple expression of the stomach content without pouring in a fluid has proved as effectual as lavage in ten years of experience with this measure. The difference between the effect realized is immaterial; patients who have tried both lavage and dry expression always prefer the latter. The technic is simple and easy, the patients requiring no help from without as they readily learn to swallow the tube. He adds that a large number of ingenious apparatus have been invented for autolavage, and illustrated descriptions are given of them in the text-books, but no one seems to use them.

He does not think that it is mere chance that he has had no cases of tetany in the last ten or fifteen years since he has restricted the use of lavage to the above indications. Even with chronic gastritis, the tendency to catarrh is not affected by lavages; this can be controlled far better by suitable diet, mineral waters and avoidance of irritants. Benefit from lavage in nervous affections of the stomach is probably the effect of suggestion alone.

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91. **Parasites of Variola and Vaccinia.**—Paschen and Paul describe their latest research on the minute bodies which Paschen regards as the causal agent of variola and vaccinia. Paul gives an illustrated description of his apparatus for demonstrating ultramicroscopic forms of virus.

92. **Serodiagnosis of Mental Diseases.**—Fischer reports a further series of eighty-seven patients with dementia praecox, general paresis or epilepsy, tested by the Abderhalden technic for protective ferments. The results confirmed in every case the specific nature of the ferments elaborated in these affections. In the paresis cases, the serum digested cortex tissue but never genital-gland tissue. In the sixteen epileptics, cortex tissue was digested in only one case. In the dementia praecox cases, cortex tissue was digested in the majority of cases, and thyroid tissue in ten of thirty-seven examined, and sexual-gland tissue in fifty-six of fifty-seven examinations. In fifteen cases, both testicle and ovary tissue was tested, with the result that the serum of men digested only testicle tissue, female serum only ovary tissue, and never testicle tissue. Fischer has applied the Abderhalden technic 700 times.

93. **Action of Light on the Human Organism.**—Pincussohn has continued his previously reported research on the action of light after sensitization with eosin or other fluorescent stains. He experimented with dogs, cats, guinea-pigs and rabbits, the results confirming the intensification of the action of light on tissues and organs by this means. It opens a prospect of being able to apply light in therapeutics with more accurate doses and aims than has hitherto been possible, thus magnifying the therapeutic effect of ordinary and artificial light.

Medizinische Klinik, Berlin

October 26, IX, No. 43, pp. 1751-1792 and Supplement

95 Pseudoneuralgia. M. Serog.
96 *Defects of Speech. (Einige für den praktischen Arzt wichtige Kapitel der Sprachheilkunde.) E. Fröschels. Commenced in No. 42.
97 Dietetic Treatment of Gout. P. Le Gendre.
98 Abderhalden's Serodiagnosis of Tuberculosis. F. Jessen.
99 Vaccine Therapy in Gonorrhea. A. Brandweiner.
100 Syphilis of the Nervous System. ("Lues nervosa.") F. Moerchen.
101 Radial Paralysis from Lead Poisoning. (Radialisparesen bei Bleiarbeitern.) H. Zondek. Concluded in No. 44.
102 The Various Tests for Sugar in the Urine. (Verwendung der Reduktionsmethoden zur quantitativen Harnzuckerbestimmung.) J. Meinertz.
103 Dermatology for the General Practitioner. (Dermotherapeutische Winke für den Praktiker.) J. Schäffer.

96. **Treatment of Defects in Speech.**—In the course of this study of what the general practitioner can do to ward off and cure defects in speech, Fröschels emphasizes that much can be done in preventing the development of stuttering. When a child hesitates and repeats the last syllable over and over, it is because its little brain cannot keep up with its speech; it keeps repeating the last syllable until it can think of the proper word to go on with. This is not pathologic, but it becomes so if the child's attention is drawn to this habit. The family and friends must have impressed on them with great emphasis that it is absolutely necessary to refrain from attracting the attention of the child to this slight defect in its speech. It must not be corrected, nor forced to repeat the word over again, and, above all, no impatience should be manifested. If the child's attention is once attracted to this simple repeating of the last syllable the trouble becomes confirmed and we have the severe disturbance of stuttering which may brand the individual through life and make him hold aloof from his kind.

Monatsschrift für Kinderheilkunde, Berlin

XII, No. 7, pp. 347-452

104 Four Cases of Congenital Fragility of Bones. (Osteopsathyrosis idiopathica.) E. Klose.
105 *"Salt Fever" in Infants. (Kochsalzfieber bei Säuglingen.) G. Jörgensen.
106 *Rôle of the Sympathetic Nervous System in Infants' Diseases. (Anteilnahme des sympathischen Nervensystems an den Erkrankungen des Säuglings.) E. Tezner.
107 Formation of Antibodies Not Affected by Artificial Feeding. (Ernährung und Antikörperbildung.) H. Kleinschmidt.
108 *Significance of the Wassermann Reaction in Wet-Nurses. (Bedeutung der Wassermannschen Reaktion bei der Verwendung von Ammen.) F. Wesener.

105. **Salt Fever in Infants.**—Jörgensen reviews the literature that has appeared recently in regard to fever caused by giving salt intravenously as physiologic salt solution or by mouth. He gave injections to thirty-two children and concludes from this experience that this fever is caused, not by the salt, but by the bacterial content of the water. When the solution was made with freshly distilled water there was no salt fever. This is of considerable practical importance as physiologic salt solution is so frequently given as a stimulant in various diseases. As to its administration by the mouth, it has always been given by previous experimenters in very large doses. In such doses it increases the permeability of the intestinal wall to all substances, and the fever may have been due to increased absorption of other products from the intestine, including some possibly of bacterial origin.

106. **The Sympathetic Nervous System in Infant's Diseases.**—Tezner has frequently observed in very sick infants an injection of the vessels of the conjunctiva, and necropsy has revealed congestion in all the vessels of the head. This he believes is due to decreased tone of the cranial sympathetic nervous system. This appears only in the severe acute intestinal intoxications. It is never present in chronic intestinal disturbances. Prematurely born infants have a greater tendency to atony of the sympathetic during their first three months than children born at term. This lack of tone in the sympathetic system indicates a grave prognosis.

108. **Significance of the Wassermann Reaction in Wet-Nurses.**—Wesener concludes that a negative or weakly positive Wassermann reaction must not be taken as deciding the question for or against allowing a woman to nurse a non-syphilitic child. The decision must be based on the clinical symptoms, etc., as well.

Münchener medizinische Wochenschrift

October 28, LX, No. 43, pp. 2385-2440

109 *Differences and Analogies between Cells of Different Organs. E. Abderhalden.
110 Participation of Sweat Glands in Corporeal Reflex Phenomena of Emotional Origin, Especially the Psychogalvanic Phenomena. J. Leva. (Ueber die physikalisch-chemischen und physiologischen Vorgänge im menschlichen Körper, auf denen der psychogalvanische Reflex beruht.) M. Gildemeister.
111 Reinfection with Syphilis after Salvarsan. (Zur Biologie der humanen Syphilis.) Gennerich. Concluded in No. 44.
112 *Salvarsan in Syphilis. F. Berger.
113 *Camphor in Pneumonia. H. Leo.
114 Technic for Autoplastic Exclusion of the Pylorus. (Ueber unsere Dauerresultate bei der Pylorusumschnürung mittelst Faszie, Ligamentum teres hepatis und Netz nach Wilms als Ersatz der unilateralen Pylorusausschaltung.) K. Kolb.
115 Telecardiography. (Der Telekardiograph, ein Ersatz des Orthodiagraphen.) L. Huismans.
116 *Prolapse of Rectum in Children. (Zur Operation des Mastdarmvorfalls bei Kindern.) H. Lengnick.
117 Workingmen's Compensation and Health Insurance in Roumania. (Handwerker- und Arbeiterkrankenversicherung in Rumänien.) E. Toff.
118 The Artist and the Physician. (Die Hohe Schule für Aerzte und Kranke. VIII.) M. Nassauer.

109. **Specific Structure of the Cells.**—Abderhalden shows that it need not be regarded as so wildly improbable that the building-stones of the different organic compounds may be arranged in a specific manner for each organism. Untold billions of combinations of specific building-stones must exist if each kind of cell is to be credited with its individual protein, demonstrable by biologic tests. We know about twenty of these different building-stones, the amino-acids, and we meet ever the same amino-acids throughout nature. He shows by mathematical computations the exact figure of possible combinations of even twenty different amino-acids; it is in the quintillions. Consequently, the assumption that every kind of cell has a special structure, characteristic for itself alone, is well within the possibilities. Comparative research has shown that cells which have the same tasks in the different individuals of the animal species have certain points of similarity in their structure. The assumption is therefore possible that besides their entirely specific individual structure, certain groups inside the cell exist which control certain functions. Throughout the whole animal series the organs

on which certain tasks devolve, alike through the animal series, all possess certain protein substances which are alike in all. This is evident from the fact that serum which contains protective ferments against a certain organ tissue digests this tissue, not only when it is derived from an animal of the same species, but it also digests the corresponding cell protein of entirely different species. For example, in the serodiagnosis of pregnancy the placenta of one animal can be used for other kinds of animals. He calls this a new biologic law and emphasizes its practical importance as it permits the organs of different animals to be used in clinical biologic tests. He remarks that while everything else in the cell may be different, yet one single protein may be identical and this gives the characteristic response. He compares it to the way in which a musician can detect the sound of different instruments in orchestral music while the unpracticed ear hears only the music as a whole.

112. **Salvarsan in Syphilis.**—Berger combines salvarsan and mercury inunctions and here reviews his experience in a military hospital and recent reexamination of numbers of patients from 16 to 22 months afterward. Although he regards it as almost certain to abort the disease yet he insists on chronic intermittent treatment for five years. If the Wassermann reaction is repeatedly negative, he gives mercurial treatment alone, but if it can be made positive he interposes a supplementary course of salvarsan during the second year. About three-fifths of all syphilitics can count on a permanent serologic cure. Disagreeable sensations in the gums were observed in a few cases, a bitter taste in the mouth, pulsation in the gums, and he warns that when the gums feel hot and prickle the salvarsan should be suspended. These sensations in the gums in one case preceded by two days a fatal encephalitis after salvarsan. In one case an almost somnambulistic condition followed the salvarsan. No secondary symptoms or positive Wassermann were found in any of the patients followed to date since 1910-11 who were given treatment in the primary stages. All but one have been free from recurrence among the thirty-six in the secondary stage. Negative Wassermann dropped from 70.4 per cent. to 61 per cent. in those with secondary syphilis one year after infection, and from 77.5 per cent. to 58 per cent. in those in the secondary stage two, three or more years after infection.

113. **Camphor in Pneumonia.**—Leo was able to protect numbers of mice against pneumococcus infection by subcutaneous injection of a saturated aqueous solution of camphor; the results were less constant with rabbits. These experiences suggest that camphor should be given systematically from the start in pneumonia. He thinks it is able to kill the pneumococci in the blood stream and promote reabsorption of the pneumonic exudate. Camphor has also a marked action in increasing the ventilation of the lungs, the amount of air inspired being very much larger under the influence of the camphor, while the drug stimulates the action of the heart and more blood is thus pumped into the lungs. As twitching was noticed in the animals with a dose of 5 c. c. per kilogram of body weight, smaller proportional doses must be used in the clinic, about 150 or 200 c. c. for a weight of 145 pounds. This represents 0.142 gm. of camphor as each 100 c. c. of the saturated aqueous solution contains 0.21—0.28 gm. camphor. He prefers Ringer's fluid instead of plain water for the vehicle. He quotes Lenzmann to show that 75 c.c. corresponding to 0.1 gm. camphor, can be injected intravenously without disturbance. Lenzmann is soon to publish a report of his experience in this line. Boehncke has already reported favorable experience with camphor plus pneumococcus serum.

116. **Prolapse of the Rectum in Children.**—Lengnick calls attention to the excellent results he obtained in a recent case by drawing up the passage above the anus by means of a strip of fascia taken from the child's own thigh, similar to Thiersch's ring technic.

St. Petersburger medizinische Zeitschrift

October 28, XXXVIII, No. 20, pp. 241-252

119 Uterine Hemorrhage. (Ueber Metrorrhagien.) H. Luchsinger.

Zeitschrift für Kinderheilkunde, Berlin

IX, No. 1, pp. 1-86. Last indexed Nov. 1, p. 1672

120 An Eruption Preceding Measles. (Ueber das Vorexanthem bei Masern.) H. Koch.
121 Occurrence of Hippuric Acid in the Urine of Infants. S. Amberg and H. F. Helmholz.
122 Reaction of Mother's Milk Is Neutral. (Ueber die Reaktion der Frauenmilch.) H. Davidsohn.
123 *Treatment of Stenosis of the Pylorus in Infants. R. Hess.
124 *Specific Nephritis in Congenital Syphilis. H. Hintzelmann.
125 Sugar Content of Children's Blood. (Der physiologische Blutzuckergehalt beim Kinde nach der Mikromethode von Bang.) Götzky, H. T. Bing and O. Windelöw.
126 The Cutaneous Tuberculin Reaction Is Specific. (Zur Frage der Spezifität der cutanen Tuberkulinreaktion nach v. Pirquet.) M. Kasahara.

123. **Stenosis of the Pylorus in Infants.**—Ibrahim's figures for the mortality from stenosis of the pylorus in infants are 46 per cent. for those treated medically and 54 per cent. of those operated on. Hess describes two cases operated on by a method devised by Ramstedt, which consists simply in cutting the pyloric ring sagittal to the intestine leaving the mucous membrane intact. The abdomen is then closed. The operation is so much simpler and shorter than any other that it offers hope of reducing the high mortality in this condition.

124. **Specific Nephritis in Congenital Syphilis.**—Hintzelmann accepts the existence of a specific chronic nephritis due to hereditary syphilis. He examined forty-one persons in the secondary stage and found that fourteen of them had nephritis. He gives the case-histories of these fourteen. Other causes for the nephritis were excluded. In twenty-eight tertiary cases examined, only three of the patients had nephritis. In two of these the nephritis was probably due to inunction treatment with mercury which sometimes causes symptoms of nephritis. He states that internal administration of mercury never seems to cause nephritis.

Zentralblatt für Chirurgie, Leipsic

November 1, XL, No. 44, pp. 1705-1736

127 Alcohol in Prevention of Acute Cocain Poisoning. A. Herzfeld (New York).
128 Exclusion of Pylorus. (Die Intraparietomuskel-Pyloropexie als Methode der Pylorusausschaltung bei Gastroptose mit Gastrektasie.) C. Mariani. (Verschluss und Suspension des Pylorus nach Gastroenterostomie mittels des Lig. teres hepatis.) Hercher.
129 Technic for Nephrotomy and Resection of the Kidney. S. Rubaschow.

Zentralblatt für Gynäkologie, Leipsic

November 1, XXXVII, No. 44, pp. 1613-1644

130 Correct Language in Technical Communications. (Ueber unsere Schrift- und Vortragssprache.) C. v. Wild.
131 *Resection of the Promontory for Permanent Enlargement of the Pelvis. H. H. Schmid.
132 Case of Rupture of the Uterus during Delivery Traced to Gonorrhea. A. Solowij.

131. **Resection of the Promontory to Enlarge Contracted Pelvis.**—Schmid and Rotter both conceived the idea about the same time that it might prove possible to enlarge permanently a contracted pelvis by cutting a slice off the projecting promontory, and Schmid has performed the operation on eight women. One of them has since passed through another pregnancy and he here reports the case in detail. It confirms the assumption that it is possible in this way to reduce the projection of the promontory by 2 cm. and permit delivery of a living child by the natural passages. As a rule, the operation is done supplementary to the classic cesarean section, and consequently it can be applied only when there is no suspicion of infection. A tendency to sciatica for a time was noted in one of the patients but it proved transient, and in none of the eight women was there any disturbance in the gait or pain in standing, walking or stooping over. The fear that callus would develop and annul the effect of the operation has proved groundless. At the operation the uterus is drawn forward and pushed up; the posterior sheet of the peritoneum is incised for 10 cm., and the assistant holds the wound open and the sigmoid flexure out of the way; no instrument proved so convenient for this as the fingers in his experience.

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Gazzetta degli Ospedali e delle Cliniche, Milan

October 26, XXXIV, No. 128, pp. 1353-1358

133 *Primary Tuberculous Process in Shaft of Tibia; Recovery after Resection. A. Ruffo.

October 28, No. 129, pp. 1351-1358

134 *Epinephrin and Abortion. (Puo l'adrenalina provocare l'aborto?) T. Silvestri.

October 30, No. 130, pp. 1359-1366

135 *Extreme Rarity of Recovery from Sleeping Sickness. (Sulla guaribilita della tripanosi o malattia del sonno.) V. Grossule.

133. **Tuberculous Diaphysitis.**—As primary tuberculous processes so seldom start in the shaft of a long bone, Ruffo suspected syphilis in the apparently healthy man when the left tibia began to bulge in two places, with a dull pain in the region whenever the leg was used much. A vigorous course of mercury caused slight transient improvement—probably from the incidental resting of the leg—but then the process continued to progress in the poorly nourished patient. The limb was never tender on moderate pressure, and there was no fever. Roentgen examination showed in the middle third of the tibia the bone rarefied at two adjacent protruding points on the front of the bone. Recovery was soon complete after excision of the foci. Tuberculosis generally avoids tissues that are extremely vascular or extremely non-vascular; Küttner in 2,100 cases of tuberculous processes in bone encountered only six in which the primary location was in the shaft of a long bone.

134. **Epinephrin and Abortion.**—Silvestri remarks that recent reports in the literature of the benefit from epinephrin in osteomalacia, in uncontrollable vomiting and other disturbances in pregnant women, led him to give epinephrin in such cases, as all the writers emphasized the harmlessness of this treatment in the dosage advised. Two recent experiences, however, tend to contradict the assumption of the harmlessness of this treatment: Two women in the second month of pregnancy were given a mild course of epinephrin and calcium salts on account of an incipient apical process and defective nutrition. Each aborted in less than a month. He has given this treatment to other women in later months of pregnancy and never before witnessed any tendency to abortion. One of the present patients had taken it without disturbance during the last three months of a preceding pregnancy.

135. **Sleeping Sickness.**—Grossule writes from the Belgian Congo district that persons who have apparently recovered from sleeping sickness are liable still to harbor the parasites when reexamined years later. In one such case no trace of them could be found two years after treatment but reexamination two years later disclosed a few trypanosomes in the blood and the cerebrospinal fluid although the man has shown no symptoms at any time since his supposed recovery. Only 100 survived to leave the hospital of the 1,100 patients in his charge, and only thirty-eight of these were clinically cured. In this group fifteen have already shown signs of returning trouble and he is convinced that it is only a question of time when the disease will rouse anew from its long latent stage in the others.

Tumori, Rome

III, No. 1, pp. 1-160

136 *Pathogenic Blastomycetes in the Etiology of Carcinoma. D. B. Roncali.

137 *Carcinoma and Fever. M. Giordano.

138 Pathogenic Action of the Saccharomyces Neoformans Sanfelice. M. Magnini.

139 Perithelial Sarcoma of the Left Subclavicular Muscle. R. Brancati.

140 *Autolysates of Embryonal, Fetal and Cancer Tissues in Treatment of Cancer, and History of Evolution of Basal Theory. (Evoluzione della teoria del disquilibrio oncogeno e della chemoterapia istogena per la genesi e la cura dei tumori maligni.) G. Fichera. Concluded in No. 2.

No. 2, pp. 161-308

141 *Salomon-Saxl Urine Sulphur Test for Cancer. M. Pasetti.

142 *Technic for Melostagmin Test for Cancer. G. Di Quattro.

143 *Pararenal Tumors. V. Saviozzi.

136. **Etiology of Cancers.**—Roncali sums up his extensive research and review of the research of others in the statement that the evidence to date seems to indicate that several parasites and consequently several toxins are involved in the causation of cancer. The blastomycetes and their toxins represent only one of the numerous etiologic factors concerned.

137. **Cancer and Fever.**—Giordano tabulates the details of a hundred cases of cancer in which the temperature was studied; fever was evident in 60 per cent. for which no explanation could be found except the cancer itself. In some cases the temperature began to go up in the evening, accompanied by severe headache, and in the course of the night, the temperature dropped, with profuse sweating, and in the morning was a trifle below normal. In other cases the temperature kept high for a week or so, with an intermittent type of fever. In still others the temperature kept throughout of an intermittent type; this was most common with sarcoma; in one case of epithelioma of the uterus the temperature fluctuated according to the quartan fever type. In the majority of cases, however, when the temperature was above normal it kept at an even figure. This continuous type of fever may mislead in the diagnosis unless physicians bear in mind always the possibility of a continuous high temperature in the prodromal period and during the course of malignant disease.

140. **Autolysates of Embryonal, Fetal and Cancer Tissues in Treatment of Cancer.**—Fichera here gives the history of the evolution of the theory on which he bases his treatment of malignant disease. (It was described fully in THE JOURNAL, Aug. 6, 1910, p. 545, and June 10, 1911, p. 1769, and the technic was given Jan. 18, 1913, p. 228.) He states that evidence is constantly accumulating to sustain the assumption that the cause of malignant disease is a loss of balance between the chemical and morphologic factors of growth, and that the balance can be restored by supplying from without certain constituents or derivates of the cells—the histogenous therapy of malignant disease. Blumenthal, Lewin and Pinkuss have reported favorable results from treatment along these lines, and many others have confirmed the action of autolysates of normal or cancerous tissues in inducing involution of experimental and clinical cancers. Fichera emphasizes that this histotherapy or histogenous chemotherapy is based on a different principle from that of vaccination; among other reasons, on account of the fact that the latter presupposes parasitic origin, while Fichera declares that there is no conclusive evidence to date incriminating parasites in the origin of cancer. On the contrary, everything tends to prove that certain organs have a tumor-destroying property. In the healthy, the immune and the cured, these organs are well developed and active; in the aged, the cachectic and those with advanced tumors, these organs are shriveled and inactive. Fichera and his coworkers have demonstrated this, they think, by their study of the organs of persons with cancer at different stages; by direct grafts in different organs; by the property of immunizing and curing and the degree of this property manifested by extracts of various organs and tissues, normal or pathologic; by the effect of removal of the single organs on the susceptibility or resisting power of the animal to cancer, and on the changes in the tumor-destroying power of the serum of healthy animals injected with the tissue extracts.

141. **The Salomon-Saxl Urine Sulphur Test for Cancer.**—Pasetti applied the Salomon-Saxl technic in 200 cases, including 46 cancer cases, 35 of surgical tuberculosis, 92 of other surgical affections, and 27 with syphilis, giving a positive Wassermann reaction. He tabulates the details of them all. Among the syphilitics the response was constantly negative except that 2 gave a dubious reaction; in surgical tuberculosis the response was negative in over 88 per cent. and in over 89 per cent. of the 48 patients with hernia, while the reaction was constantly positive in 68.7 per cent. of the carcinoma patients and in 35.7 per cent. of the sarcoma cases. The test is so simple and easy, he says, and the findings are so frequently positive in case of cancer and negative in its absence, that the reaction merits high consideration in differentiation of malignant disease. (The technic for it was described in detail in THE JOURNAL, May 27, 1911, p. 1593.) Pasetti uses

a sedimentation glass with the tapering tip graduated in millimeters for estimation of the amount of the brownish sulphate of barium sediment thrown down. This represents the neutral sulphur in the urine which has been oxidized by the strong hydrogen dioxid, and he leaves the glass for twelve or fourteen hours before final estimation of the amount of sediment.

142. **Technic for the Meiostagmin Reaction.**—Di Quattro says that the livers of certain birds, rabbits, cats and other small animals may be used as the antigen in the meiostagmin test in place of the extracts of human pancreas or of cancer tissue hitherto deemed necessary.

143. **Pararenal Tumors.**—Saviozzi applies this term to tumors which originate in the fibrous or adipose capsule of the kidney and not in the kidney tissue proper. He has found records in the literature of eighty-two cases of the kind and tabulates them for comparison. In none was the correct diagnosis made beforehand. As a rule the tumor develops without pain, merely the discomfort from the encroaching growth until pains come on late. In some cases, however, pain is the first sign of trouble. In the personal case reported the patient, a woman of 57 had complained for a year and a half of penetrating pains in the right lower quadrant of the abdomen; then the tumefaction was discovered, but the operation did not follow until three years after the first sign of trouble. In only thirteen other cases were pains the initial symptom. The urine was normal throughout except in Lotheissen's and in Ranzi's cases in which the tumor had compressed the ureter and caused intermittent hydronephrosis. Compression of the bladder induced bladder symptoms in some cases; pollakiuria or retention of urine was noted in the last four months in Saviozzi's case. The legs frequently showed edema and ascites developed in a few rare cases. Two of the patients had fever and there was slight continuous fever in Saviozzi's patient, but it disappeared at once after the operation. Fluctuation was noted in eight of the cases but exploratory puncture failed to reveal fluid. The fluctuation generally led to assumption of an ovarian or echinococcus cyst. In the 69 operative cases nephrectomy was applied in 38 and the kidney was left intact in 12; there were 21 cases with a fatal outcome and 32 recoveries; recurrence is known in 3 cases and in 13 cases the final outcome is not known. The fatality in several cases was due to hemorrhage during or soon after the operation, and in Kümmel's case to hemorrhage the second day from injury of the spleen. In seven cases the conditions found at the operation forbade the complete removal of the tumor. The article is accompanied by three colored plates showing the findings in Saviozzi's case.

Brazil-Medico, Rio de Janeiro

October 15, XXVII, No. 39, pp. 413-425

144 Differential Diagnosis of Pott's Disease. M. Gesteira. Commenced in No. 38.

Semana Medica, Buenos Aires

October 9, XX, No. 41, pp. 813-868

145 Abderhalden's Serodiagnosis of Pregnancy. (La suero-reaccion del embarazo—Abderhalden.) J. A. Gabastou and W. Widakowich.
146 Sewage and Water Supply. (Eliminacion de los productos cloacales y residuos industriales. Progresos de la depuracion biologica en los diferentes paises.) P. J. Pando.
147 Cataract from Electric Accident. (Patogenia de la catarata por rayo y por descarga electrica.) M. Pannunzio.
148 Specialization in Medicine. J. S. Fernandez.

Norsk Magazin for Lægevidenskaben, Christiania

November, LXXIV, No. 11, pp. 1149-1600

149 *General Paresis in Boy of 10. A. Collett.
150 *Spontaneous Recovery of Renal Tuberculosis. (Kan nyretuberkulosen helbredes spontant?) F. Harbitz.
151 *Hodgkin's Disease. (Om malign lymfogranulomatose.) K. Motzfeldt.

149. **Juvenile General Paralysis.**—Collett gives two colored plates of the findings in the brain of a boy of 11 who had succumbed to general paralysis evidently the effect of inherited syphilis. The child had developed normally and was bright for his age until he was 7 years old. Then an operation was done on the lacrimal sac under general anesthesia, and almost at once afterward the boy's entire character and mentality changed and later the symptoms of general paralysis gradually developed with pupil phenomena and exaggerated reflexes, but no signs of focal disturbances. In connection with this case Collett reviews the literature on the subject of progressive paresis in children. Over 250 cases are on record and in 160 in which the details are known, inherited syphilis was certain in 105, probable in an additional twenty-five, possible in twenty and acquired syphilis was certain in ten instances. Puberty, the puerperium, trauma, masturbation or infectious diseases are stated to have been contributing factors in a number. His own case teaches the necessity of caution in administering a general anesthetic to a child with possibly an inherited syphilitic taint. A history of abortions preceding or following the birth of the child in question should be a special warning. The symptoms and course in children are about the same as in adults, but the pupils are more liable to be dilated rather than contracted. No treatment seems to do any good, he remarks; mercury does direct harm.

150. **Spontaneous Healing of Renal Tuberculosis.**—In routine necropsy work during the last few years, Harbitz found signs of an old tuberculous process in a kidney in twelve cadavers; it had evidently run its course and become encapsulated spontaneously, with what amounted to a clinical cure. In some of the cases the renal tuberculosis had existed for four, six, eight or ten years, and even twenty years in one instance. The processes were of all kinds from the ulcerative to the "sclerosing." In six of the cases the chronic process had become completely encapsulated and the pelvis and ureter were entirely obstructed. Of special interest is the finding that a tuberculous process in the bladder had evidently healed completely after the kidney lesion above had been thus walled off. The data presented reaffirm the rarity of primary tuberculous lesions in the bladder; also that the bladder becomes affected comparatively late in the course of renal tuberculosis, and also that the bladder process generally heals when the kidney process is removed or encapsulated.

In one of the cases reported the tuberculous lesion in the kidney had perforated outward, and yet the whole had healed spontaneously and the fistula closed. In four of the cases the kidney process had not caused appreciable clinical symptoms or merely slight transient manifestations. A tuberculous focus in the kidney is a constant menace to the rest of the organism; two of the patients succumbed to secondary meningitis or miliary tuberculosis, and three to nephritis in the other kidney. Another point brought out by this material is that congenital malformations or displacement of the kidney seem to play an important part in inviting the development of a tuberculous process in a kidney. This was evident in three of the above cases.

151. **Hodgkin's Disease.**—Motzfeldt gives an illustrated description of a number of his ten cases of malignant lymphogranulomatosis, and compares them with similar cases on record. He regards it as a clinical entity, saying that there is no evidence that connects it with tuberculosis, not even with attenuated tubercle bacilli or their toxins or Much's granula. The testimony to date shows that it resembles most the infectious granuloma, but it does not seem to be of the nature of a neoplasm, although a malignant nature seems evident. A transition to leukemia or sarcoma has never been observed. The ages of his patients ranged from 8 to 57.

Ugeskrift for Læger, Copenhagen

October 23, LXXV, No. 43, pp. 1717-1752

152 Constancy of the Reflexes. C. H. Würtzen.
153 Case of Hysteria Magna. E. Clausen.

October 30, No. 44, pp. 1753-1776

154 Improved Technic for Blood Count. (En Modifikation af Hayems Vædske.) G. Jørgensen.

Upsala Läkareförenings Förhandlingar

XVIII, No. 7, pp. 457-548. Last indexed Oct. 25, p. 1582

155 Improved Ophthalmometer. (Om mätning af främre ögonkammarens djup med ett nytt, för kliniskt bruk afsedt instrument.) F. Lindstedt.
156 Cannula for Therapeutic Pneumothorax. (Eine Kanüle zum Pneumotheraxanlegen nebst kritischen Betrachtungen über die gewöhnlich angewandten Methoden.) E. Lindbugen.

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